

## SEQUENCE LISTING



<110> Anderson, David  
Burgess, Catherine  
Casman, Stacie  
Colman, Steven  
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Ellerman, Karen  
Gerlach, Valerie  
Gunther, Erik  
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Spytek, Kimberly A.  
Stone, David J.  
Vernet, Corine A.M.  
Zerhusen, Bryan D.

<120> PROTEINS, POLYNUCLEOTIDES ENCODING THEM AND METHODS OF  
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Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr  
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Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val  
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Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu  
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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly  
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser  
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Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln  
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Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr  
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Trp Arg Val Gly Pro Val Gly Met Gly Cys Gly Ser Gly Glu Asn Ser  
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730

735

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Thr Val Met Pro Thr Thr Pro Val Ala Tyr Asn Ser Leu Gly Ala Val  
770 775 780

Ile Gly Ile Ala Val Leu Gly Ser Leu Val Val Ala Leu Val Ala Leu  
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Phe Ile Gly Tyr Arg His Trp Gln Lys Asp Lys Glu His His His Leu  
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Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp Gly Ser Glu Tyr Val Met  
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Pro Asp Val Pro Pro Ser Tyr Ser His Tyr Tyr Ser Asn Pro Ser Tyr  
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<212> PRT  
<213> Homo sapiens

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Glu Ser Phe Thr Thr Thr Lys Glu Ser His Ser Arg Pro Phe Ser  
35 40 45  
  
Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr  
50 55 60  
  
Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val  
65 70 75 80  
  
Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu  
85 90 95  
  
Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly  
100 105 110  
  
Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly  
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Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys  
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser  
145 150 155 160  
  
Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln  
165 170 175  
  
Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln  
180 185 190  
  
Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro  
195 200 205

Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr  
210 215 220

Ser Gly Phe Phe Cys Pro Ser Thr His Ser Cys Gln Asn Gly Gly Val  
225 230 235 240

Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Val  
245 250 255

Trp Arg Val Gly Pro Val Gly Met Gly Cys Gly Ser Gly Glu Asn Ser  
260 265 270

Val Gly Gly Ala Lys Gln Gly Ser Lys Gly Thr Ile Cys Ser Leu Pro  
275 280 285

Cys Pro Glu Gly Phe His Gly Pro Asn Cys Ser Gln Glu Cys Arg Cys  
290 295 300

His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln Cys Arg Cys Ala  
305 310 315 320

Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu Glu Cys Pro Val Gly Arg  
325 330 335

Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala Pro Asp Ala Arg  
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Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His Gly Phe Thr Gly  
355 360 365

Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp Gly Phe Tyr Gly Leu Ser  
370 375 380

Cys Gln Ala Pro Arg Thr Cys Asp Arg Glu His Ser Leu Ser Cys His  
385 390 395 400

Pro Met Asn Gly Glu Cys Ser Cys Leu Pro Gly Trp Ala Gly Leu His  
405 410 415

Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro Gly Cys Gln Glu  
420 425 430

Arg Cys Leu Cys Leu His Gly Gly Val Cys Gln Ala Thr Ser Gly Leu  
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Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro His Cys Ala Ser Leu Cys  
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Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser Ala Arg Cys Ser Cys Glu  
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Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Glu Cys Val Cys Lys Glu  
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Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro Pro Gly Thr Trp  
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Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys Ala His Glu Ala Val Cys  
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His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly Glu Gly Cys Ala  
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Ser Arg Cys Asp Cys Asp His Ser Asp Gly Cys Asp Pro Val His Gly  
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Arg Cys Gln Cys Gln Ala Gly Trp Met Gly Ala Arg Cys His Leu Ser  
580 585 590

Cys Pro Glu Gly Leu Trp Gly Val Asn Cys Ser Asn Thr Cys Thr Cys  
595 600 605

Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn Gly Asn Cys Val Cys Ala  
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Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Ser Cys Gln Pro Gly Arg  
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Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys Ala Asn His Ser Phe Cys  
645 650 655

His Pro Ser Asn Gly Ala Cys Tyr Cys Leu Ala Gly Trp Thr Gly Pro  
660 665 670

Asp Cys Ser Gln Pro Cys Pro Pro Gly His Trp Gly Glu Asn Cys Ala  
675 680 685

Gln Thr Cys Gln Cys His His Gly Gly Thr Cys His Pro Gln Asp Gly  
690 695 700

Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly His His Cys Leu Glu Gly  
705 710 715 720

Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys Ser Gln Pro Cys Gln Cys		
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Gly Pro Gly Glu Lys Cys His Pro Glu Thr Gly Ala Cys Val Cys Pro		
740	745	750
Pro Gly His Ser Gly Ala Pro Cys Arg Ile Gly Ile Gln Glu Pro Phe		
755	760	765
Thr Val Met Pro Thr Thr Pro Val Ala Tyr Asn Ser Leu Gly Ala Val		
770	775	780
Ile Gly Ile Ala Val Leu Gly Ser Leu Val Val Ala Leu Val Ala Leu		
785	790	795
800		
Phe Ile Gly Tyr Arg His Trp Gln Lys Asp Lys Glu His His His Leu		
805	810	815
Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp Gly Ser Glu Tyr Val Met		
820	825	830
Pro Asp Val Pro Pro Ser Tyr Ser His Tyr Tyr Ser Asn Pro Ser Tyr		
835	840	845
His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro Pro Asn Lys Val		
850	855	860
Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn Pro Glu Arg Pro Gly Gly		
865	870	875
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Ala Gln Gly His Asp Asn His Thr Thr Leu Pro Ala Asp Trp Lys His		
885	890	895
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 <212> DNA  
 <213> Homo sapiens

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Cys	Pro	Gln	Pro	Thr	Val	Val	Tyr	Arg	Thr	Val	Tyr	Arg	Gln	Val	Val
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Lys	Thr	Asp	His	Arg	Gln	Arg	Leu	Gln	Cys	Cys	His	Gly	Phe	Tyr	Glu
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Ser	Arg	Gly	Phe	Cys	Val	Pro	Leu	Cys	Ala	Gln	Glu	Cys	Val	His	Gly
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Cys	His	Gly	Ala	Pro	Cys	Asp	Pro	Gln	Thr	Gly	Ala	Cys	Phe	Cys	Pro
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Ala	Glu	Arg	Thr	Gly	Pro	Ser	Cys	Asp	Val	Ser	Cys	Ser	Gln	Gly	Thr
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225															240
Phe	Gln	Thr	Pro	Gln	Gly	Ser	Cys	Ser	Cys	Pro	Pro	Gly	Trp	Met	Gly
245															255
Thr	Ile	Cys	Ser	Leu	Pro	Cys	Pro	Glu	Gly	Phe	His	Gly	Pro	Asn	Cys
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Gly Gln Cys Arg Cys Ala Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu  
290 295 300

Glu Cys Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp  
305 310 315 320

Cys Ala Pro Asp Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys  
325 330 335

Glu His Gly Phe Thr Gly Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp  
340 345 350

Gly Phe Tyr Gly Leu Ser Cys Gln Ala Pro Arg Thr Cys Asp Arg Glu  
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His Ser Leu Ser Cys His Pro Met Asn Gly Glu Cys Ser Cys Leu Pro  
370 375 380

Gly Trp Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His  
385 390 395 400

Gly Pro Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Val Cys  
405 410 415

Gln Ala Thr Ser Gly Leu Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro  
420 425 430

His Cys Ala Ser Leu Cys Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser  
435 440 445

Ala Arg Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly  
450 455 460

Glu Cys Val Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro  
465 470 475 480

Cys Pro Pro Gly Thr Trp Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys  
485 490 495

Ala His Glu Ala Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr  
500 505 510

Pro Gly Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln  
515 520 525

Phe Gly Glu Gly Cys Ala Ser Arg Cys Asp Cys Asp His Ser Asp Gly  
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Cys Asp Pro Val His Gly Arg Cys Gln Cys Gln Ala Gly Trp Met Gly  
545 550 555 560

Ala Arg Cys His Leu Ser Cys Pro Glu Gly Leu Trp Gly Val Asn Cys  
565 570 575

Ser Asn Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn  
580 585 590

Gly Asn Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg  
595 600 605

Ser Cys Gln Pro Gly Arg Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys  
610 615 620

Ala Asn His Ser Phe Cys His Pro Ser Asn Gly Thr Cys Tyr Cys Leu  
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Ala Gly Trp Thr Gly Pro Asp Cys Ser Gln Pro Cys Pro Pro Gly His  
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Trp Gly Glu Asn Cys Ala Gln Thr Cys Gln Cys His His Gly Gly Thr  
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Cys His Pro Gln Asp Gly Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly  
675 680 685

His His Cys Leu Glu Gly Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys  
690 695 700

Ser Gln Pro Cys Gln Cys Gly Pro Gly Glu Lys Cys His Pro Glu Thr  
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725 730 735

Gly Ile Gln Glu Pro Phe Thr Val Met Pro Thr Thr Pro Val Ala Tyr  
740 745 750

Asn Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Ser Leu Val  
755 760 765

Val Ala Leu Val Ala Leu Phe Ile Gly Tyr Arg His Trp Gln Lys Asp  
770 775 780

Lys Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp  
785 790 795 800

Gly Ser Glu Tyr Val Met Pro Asp Val Pro Pro Ser Tyr Ser His Tyr  
805 810 815

Tyr Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro  
820 825 830

Pro Pro Pro Asn Lys Val Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn  
835 840 845

Pro Glu Arg Pro Gly Gly Ala Gln Gly His Asp Asn His Thr Thr Leu  
850 855 860

Pro Ala Asp Trp Lys His Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp  
865 870 875 880

Arg Gly Ser Ser Arg Leu Asp Arg Ser Tyr Ser Tyr Ser Tyr Ser Asn  
885 890 895

Gly Pro Gly Pro Phe Tyr Asn Lys Gly Leu Ile Ser Glu Glu Leu  
900 905 910

Trp Ala Ser Val Ala Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile  
915 920 925

Arg Asp Leu Pro Ser Leu Pro Gly Gly Pro Arg Glu Ser Ser Tyr Met  
930 935 940

Glu Met Lys Gly Pro Pro Ser Gly Ser Pro Pro Arg Gln Pro Pro Gln  
945 950 955 960

Phe Trp Asp Ser Gln Arg Arg Arg Gln Pro Gln Pro Gln Arg Asp Ser  
965 970 975

Gly Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val  
980 985 990

Gly Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp  
995 1000 1005

Ser Pro Lys Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val  
1010 1015 1020

Arg His Pro Pro Ser Pro Pro Leu Arg Arg Gln Asp Arg  
1025 1030 1035

<210> 9  
<211> 3114  
<212> DNA  
<213> Homo sapiens

<400> 9

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<210> 10

<211> 1037

<212> PRT

<213> Homo sapiens

<400> 10

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Glu Ser Phe Thr Thr Thr Lys Glu Ser His Ser Arg Pro Phe Ser  
35 40 45

Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr  
50 55 60

Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val  
65 70 75 80

Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu  
85 90 95

Ser Arg Glu Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly  
100 105 110

Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly  
115 120 125

Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys  
130 135 140

Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser  
145 150 155 160

Gly	Val	Cys	Ser	Cys	Pro	Ser	Gly	Leu	Gln	Pro	Pro	Asn	Cys	Leu	Gln
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Pro	Cys	Thr	Pro	Gly	Tyr	Tyr	Gly	Pro	Ala	Cys	Gln	Phe	Arg	Cys	Gln
					180			185				190			
Cys	His	Gly	Ala	Pro	Cys	Asp	Pro	Gln	Thr	Gly	Ala	Cys	Phe	Cys	Pro
					195			200				205			
Ala	Glu	Arg	Thr	Gly	Pro	Ser	Cys	Asp	Val	Ser	Cys	Ser	Gln	Gly	Thr
					210			215				220			
Ser	Gly	Phe	Phe	Cys	Pro	Ser	Thr	His	Pro	Cys	Gln	Asn	Gly	Gly	Val
					225			230			235		240		
Phe	Gln	Thr	Pro	Gln	Gly	Ser	Cys	Ser	Cys	Pro	Pro	Gly	Trp	Met	Gly
					245			250				255			
Thr	Ile	Cys	Ser	Leu	Pro	Cys	Pro	Glu	Gly	Phe	His	Gly	Pro	Asn	Cys
					260			265				270			
Ser	Gln	Glu	Cys	Arg	Cys	His	Asn	Gly	Gly	Leu	Cys	Asp	Arg	Phe	Thr
					275			280			285				
Gly	Gln	Cys	Arg	Cys	Ala	Pro	Gly	Tyr	Thr	Gly	Asp	Arg	Cys	Arg	Glu
					290			295			300				
Glu	Cys	Pro	Val	Gly	Arg	Phe	Gly	Gln	Asp	Cys	Ala	Glu	Thr	Cys	Asp
					305			310			315		320		
Cys	Ala	Pro	Asp	Ala	Arg	Cys	Phe	Pro	Ala	Asn	Gly	Ala	Cys	Leu	Cys
					325			330				335			
Glu	His	Gly	Phe	Thr	Gly	Asp	Arg	Cys	Thr	Asp	Arg	Leu	Cys	Pro	Asp
					340			345			350				
Gly	Phe	Tyr	Gly	Leu	Ser	Cys	Gln	Ala	Pro	Cys	Thr	Cys	Asp	Arg	Glu
					355			360			365				
His	Ser	Leu	Ser	Cys	His	Pro	Met	Asn	Gly	Glu	Cys	Ser	Cys	Leu	Pro
					370			375			380				
Gly	Trp	Ala	Gly	Leu	His	Cys	Asn	Glu	Ser	Cys	Pro	Gln	Asp	Thr	His
					385			390			395		400		
Gly	Pro	Gly	Cys	Gln	Glu	Tyr	Cys	Leu	Cys	Leu	His	Gly	Gly	Val	Cys
					405			410			415				

Gln Ala Thr Ser Gly Leu Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro  
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 His Cys Ala Ser Leu Cys Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser  
 435 440 445  
  
 Ala Arg Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly  
 450 455 460  
  
 Glu Cys Val Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro  
 465 470 475 480  
  
 Cys Pro Pro Gly Thr Trp Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys  
 485 490 495  
  
 Ala His Glu Ala Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr  
 500 505 510  
  
 Pro Gly Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln  
 515 520 525  
  
 Phe Gly Glu Gly Cys Ala Ser Arg Cys Asp Cys Asp His Ser Asp Gly  
 530 535 540  
  
 Cys Asp Pro Val His Gly Arg Cys Gln Cys Gln Ala Gly Trp Met Gly  
 545 550 555 560  
  
 Ala Arg Cys His Leu Ser Cys Pro Glu Gly Leu Trp Gly Val Asn Cys  
 565 570 575  
  
 Ser Asn Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn  
 580 585 590  
  
 Gly Asn Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg  
 595 600 605  
  
 Ser Cys Gln Pro Gly Arg Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys  
 610 615 620  
  
 Ala Asn His Ser Phe Cys His Pro Ser Asn Gly Thr Cys Tyr Cys Leu  
 625 630 635 640  
  
 Ala Gly Trp Thr Gly Pro Asp Cys Ser Gln Pro Cys Pro Pro Gly His  
 645 650 655  
  
 Trp Gly Glu Asn Cys Ala Gln Thr Cys Gln Cys His His Gly Gly Thr  
 660 665 670

Cys His Pro Gln Asp Gly Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly  
 675 680 685  
  
 His His Cys Leu Glu Gly Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys  
 690 695 700  
  
 Ser Gln Pro Cys Gln Cys Gly Pro Gly Glu Lys Cys His Pro Glu Thr  
 705 710 715 720  
  
 Gly Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Pro Cys Arg Ile  
 725 730 735  
  
 Gly Ile Gln Glu Pro Phe Thr Val Met Pro Thr Thr Pro Val Ala Tyr  
 740 745 750  
  
 Asn Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Ser Leu Val  
 755 760 765  
  
 Val Ala Leu Val Ala Leu Phe Ile Gly Tyr Arg His Trp Gln Lys Gly  
 770 775 780  
  
 Lys Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp  
 785 790 795 800  
  
 Gly Ser Glu Tyr Val Met Pro Asp Val Pro Pro Ser Tyr Ser His Tyr  
 805 810 815  
  
 Tyr Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro  
 820 825 830  
  
 Pro Pro Pro Asn Lys Val Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn  
 835 840 845  
  
 Pro Glu Arg Pro Gly Gly Ala Gln Gly His Asp Asn His Thr Thr Leu  
 850 855 860  
  
 Pro Ala Asp Trp Lys His Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp  
 865 870 875 880  
  
 Arg Gly Ser Ser His Leu Asp Arg Ser Tyr Ser Tyr Ser Tyr Ser Asn  
 885 890 895  
  
 Gly Pro Gly Pro Phe Tyr Asp Lys Gly Leu Ile Ser Glu Glu Leu  
 900 905 910  
  
 Gly Ala Ser Val Thr Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile  
 915 920 925

Arg Asp Leu Pro Ser Leu Pro Gly Gly Pro Arg Glu Ser Ser Tyr Met  
930 935 940

Glu Met Lys Gly Pro Pro Ser Gly Ser Pro Pro Arg Gln Pro Pro Gln  
945 950 955 960

Phe Trp Asp Ser Gln Arg Arg Arg Gln Pro Gln Pro Gln Arg Asp Ser  
965 970 975

Gly Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val  
980 985 990

Gly Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp  
995 1000 1005

Ser Pro Lys Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val  
1010 1015 1020

Arg His Pro Pro Ser Pro Pro Leu Arg Arg Gln Asp Arg  
1025 1030 1035

<210> 11

<211> 1833

<212> DNA

<213> Homo sapiens

<400> 11

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cgtggacta 1440  
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gctggccgg 1560  
tgaagccat 1620  
aaagcgtgag 1680  
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gctactcatc 1833  
taccacttcg gattgcgaga ctg

<210> 12  
<211> 557  
<212> PRT  
<213> Homo sapiens

<400> 12  
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Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu Gly Thr Ala Gly  
20 25 30

Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg Arg Phe Ser Gly  
35 40 45

Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Pro Ser Arg Arg Ser Ser  
50 55 60

Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Gln Pro Ala Ser Leu Leu  
65 70 75 80

Pro Glu Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro Thr Arg Ser Pro  
85 90 95

Pro Ser Ser Ser Lys Glu Pro Pro Glu Gly Thr Trp Met Gly Ala Ala  
100 105 110

Pro Val Lys Ala Val Asp Ser Ala Cys Pro Glu Leu Thr Gly Ser Ser  
115 120 125

Gly Gly Pro Gly Ser Arg Glu Pro Leu Arg Val Pro Glu Ala Val Ala  
130 135 140

Leu Glu Arg Arg Glu Gln Glu Glu Lys Glu Asp Met Glu Thr Gln

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Ala Val Ala Thr Ser Pro Asp Gly Arg Tyr Leu Lys Phe Asp Ile Glu			
165	170	175	
Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Arg Gly Leu Asp Thr Asp			
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Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Thr Arg Lys Leu Ser			
195	200	205	
Arg Ala Glu Arg Gln Arg Phe Ser Glu Glu Val Glu Met Leu Lys Gly			
210	215	220	
Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Lys Ser Val			
225	230	235	240
Leu Arg Gly Gln Val Cys Ile Val Leu Val Thr Glu Leu Met Thr Ser			
245	250	255	
Gly Thr Leu Lys Thr Tyr Leu Arg Arg Phe Arg Glu Met Lys Pro Arg			
260	265	270	
Val Leu Gln Arg Trp Ser Arg Gln Ile Leu Arg Gly Leu His Phe Leu			
275	280	285	
His Ser Arg Val Pro Pro Ile Leu His Arg Asp Leu Lys Cys Asp Asn			
290	295	300	
Val Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp Leu Gly			
305	310	315	320
Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile Gly Thr			
325	330	335	
Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp Glu Ala			
340	345	350	
Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala Thr Ser			
355	360	365	
Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr Arg Lys			
370	375	380	
Val Thr Ser Gly Arg Lys Pro Asn Ser Phe His Lys Val Lys Ile Pro			
385	390	395	400
Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Thr Asp Lys Asn Glu			

405 410 415  
Arg Phe Thr Ile Gln Asp Leu Leu Ala His Ala Phe Phe Arg Glu Glu  
420 425 430  
Arg Gly Val His Val Glu Leu Ala Glu Glu Asp Asp Gly Glu Lys Pro  
435 440 445  
Gly Leu Lys Leu Trp Leu Arg Met Glu Asp Ala Arg Arg Gly Gly Arg  
450 455 460  
Pro Arg Asp Asn Gln Ala Ile Glu Phe Leu Phe Gln Leu Gly Arg Asp  
465 470 475 480  
Ala Ala Glu Glu Val Ala Gln Glu Met Val Ala Leu Gly Leu Val Cys  
485 490 495  
Glu Ala Asp Tyr Gln Pro Val Ala Arg Ala Val Arg Glu Arg Val Ala  
500 505 510  
Ala Ile Gln Arg Lys Arg Glu Lys Leu Arg Lys Ala Arg Glu Leu Glu  
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Ala Leu Pro Pro Glu Pro Gly Pro Pro Pro Ala Thr Val Pro Met Asp  
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Pro Gly Pro Pro Thr Asp Val Tyr Pro Pro His Glu Thr  
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<210> 13  
<211> 2646  
<212> DNA  
<213> Homo sapiens

<220>  
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<223> Where n is a or c or t or g.

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ctcttatatt tgcagtagat tataaaaatac ataatgtata tatacagttt atatatttgt 240  
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<210> 14  
<211> 322  
<212> PRT  
<213> Homo sapiens

<220>  
<221> VARIANT  
<222> (203)

<223> Where Xaa is Ile or Met

<400> 14

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Phe Ser His Phe Ile Leu Ile Gly Phe Ser Asp Arg Pro Glu Leu Glu  
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Arg Val Leu Phe Ala Ile Ile Leu Pro Ala Tyr Leu Leu Thr Leu Leu  
35 40 45

Gly Asn Ser Ile Ile Ile Leu Val Ser Arg Leu Asp Pro His Leu His  
50 55 60

Thr Pro Met Tyr Phe Phe Leu Thr His Leu Ser Phe Leu Asp Leu Ser  
65 70 75 80

Phe Thr Ser Ser Ile Pro Gln Leu Leu Tyr Asn Leu Ser Gly Pro  
85 90 95

Asp Lys Thr Ile Ser Tyr Val Gly Cys Ala Leu Gln Leu Val Leu Phe  
100 105 110

Leu Gly Leu Gly Gly Val Glu Cys Leu Leu Leu Ala Val Met Ala Tyr  
115 120 125

Asp Arg Phe Val Ala Val Cys Lys Pro Leu His Tyr Met Val Ile Met  
130 135 140

Asn Pro Gln Leu Cys Arg Gly Leu Val Ser Val Thr Trp Gly Cys Gly  
145 150 155 160

Val Ala Asn Ser Leu Ala Met Ser Pro Val Thr Leu Arg Leu Pro Arg  
165 170 175

Cys Gly His His Glu Val Asp His Phe Leu Arg Glu Met Pro Ala Leu  
180 185 190

Ile Arg Met Ala Cys Val Ser Thr Val Ala Xaa Glu Gly Thr Val Phe  
195 200 205

Val Leu Ala Val Gly Ala Ala Leu Ser Pro Leu Val Phe Ile Met Ile  
210 215 220

Ser Tyr Ser Tyr Ile Val Arg Ala Val Leu Gln Ile Arg Ser Ala Ser  
225 230 235 240

Gly Arg Gln Lys Ala Phe Gly Thr Cys Gly Ser His Leu Thr Val Val  
245 250 255

Ser Leu Phe Tyr Gly Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ala  
260 265 270

Ser Ser Ser Gln Asp Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile  
275 280 285

Val Thr Pro Leu Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Arg Glu  
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Val Lys Gly Ala Leu Gly Arg Leu Leu Leu Gly Lys Arg Glu Leu Gly  
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Lys Glu

<210> 15

<211> 2381

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (2004)

<223> Where n is a or c or t or g.

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<210> 16  
 <211> 372  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
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Arg Ala Asp Thr Gly Ser Leu Gly Arg Tyr Trp Gly Lys Ala Ala Ala  
 35 40 45

Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala  
 50 55 60

Ala Gly Ser Gly Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu  
 65 70 75 80

Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu  
 85 90 95

Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro  
100 105 110

Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val  
115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp  
130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg  
145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu  
165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His  
180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly  
195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala  
210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser  
225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu  
245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val  
260 265 270

Gly Arg Glu Arg Leu Trp Arg Gln Ala Gly Glu Trp Gln Arg Arg Gly  
275 280 285

Pro Arg Arg Arg Thr Pro Arg Ala Ala Gly Trp Arg Lys Cys Ile Ala  
290 295 300

Phe Ser Ala Ile Cys Ser Pro His Ser Arg Thr Val Asp Arg Asp Arg  
305 310 315 320

Asp Trp Arg Ala Arg Arg Gly Cys Asp Thr Val Ala Met Ala Arg Ser  
325 330 335

Trp Val Val Pro Gly Ser Thr Glu Gly Glu Ala Pro Trp Thr Leu Leu  
340 345 350

Gly Pro Ala Arg Asn Arg Thr Arg Arg Gly Pro Thr Gln Val Leu Val  
355 360 365

Ser Gly Leu Leu  
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<210> 17  
<211> 1209  
<212> DNA  
<213> Homo sapiens

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<210> 18  
<211> 315  
<212> PRT  
<213> Homo sapiens

<400> 18  
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Ala Pro Thr Ser Gln Ser Leu Arg Cys Ala Pro Gln Pro Arg Pro Ser  
20 25 30

Arg Ala Asp Thr Gly Ser Leu Gly Arg Tyr Trp Gly Lys Ala Ala Ala  
 35 40 45

Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala  
 50 55 60

Ala Gly Ser Gly Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu  
 65 70 75 80

Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu  
 85 90 95

Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro  
 100 105 110

Arg Glu His Ala Trp Ile Leu Ala Ala Glu Gly Arg Tyr Glu Val  
 115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp  
 130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg  
 145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu  
 165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His  
 180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly  
 195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala  
 210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser  
 225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu  
 245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val  
 260 265 270

Gly Ala Thr Ala Val Glu Thr Ser Arg Arg Val Ala Ala Ser Arg Thr  
 275 280 285

Lys Ala Lys Asp Thr Ala Gly Ser Arg Val Ala Gln Met His Ser Leu  
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Phe Arg His Leu Phe Pro Ser Phe Gln Asp Arg  
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<210> 19  
<211> 6272  
<212> DNA  
<213> Homo sapiens

<400> 19

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 gagaagctga tcgtatcctg tgagcaggag attctgcggg ttcaactgcgg ggcggccagg 5820  
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 gtgccctcct tctacgtgcc catggtcgac gtcaacgacg actttgtatt gttgccggca 6180  
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 <211> 2058  
 <212> PRT  
 <213> Homo sapiens

<400> 20

Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro  
 1 5 10 15

Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Lys Asp Lys  
 20 25 30

Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly Lys  
 35 40 45

Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala Gly  
 50 55 60

Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Gly Thr Ser Pro Thr Ala  
 65 70 75 80

Leu Pro Leu Cys Asp Pro Phe Thr Tyr Thr Ala Glu Glu Ala Lys Ala  
 85 90 95

Glu Arg Gln Lys Gln Gly Pro Glu Arg Lys Arg Ile Lys Lys Glu Pro  
100 105 110

Val Thr Arg Lys Ala Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu  
115 120 125

Ser Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu  
130 135 140

Ser Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser  
145 150 155 160

Thr Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp  
165 170 175

Lys Val Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala  
180 185 190

Ala Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly  
195 200 205

Ala Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu  
210 215 220

Ala Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala  
225 230 235 240

Gly Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His  
245 250 255

Asp Ala Ala Asn Asn Gly His Gln Val Val Lys Leu Leu Leu Arg Tyr  
260 265 270

Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys  
275 280 285

Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr  
290 295 300

Tyr Thr Ser Ser Glu Glu Ser Ser Ser Glu Glu Glu Asp Ala Pro Ser  
305 310 315 320

Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp Ser Glu Phe  
325 330 335

Glu Lys Gly Leu Lys His Lys Ala Lys Asn Pro Glu Pro Gln Lys Ala  
340 345 350

Thr Ala Pro Val Lys Asp Glu Tyr Glu Phe Asp Glu Asp Asp Glu Gln  
355 360 365

Asp Arg Val Pro Pro Val Asp Asp Lys His Leu Leu Lys Lys Asp Tyr  
370 375 380

Arg Lys Glu Thr Lys Ser Asn Ser Phe Ile Ser Ile Pro Lys Met Glu  
385 390 395 400

Val Lys Ser Tyr Thr Lys Asn Asn Thr Ile Ala Pro Lys Lys Ala Ser  
405 410 415

His Arg Ile Leu Ser Asp Thr Ser Asp Glu Glu Asp Ala Ser Val Thr  
420 425 430

Val Gly Thr Gly Glu Lys Leu Arg Leu Ser Ala His Thr Ile Leu Pro  
435 440 445

Gly Ser Lys Thr Arg Glu Pro Ser Asn Ala Lys Gln Gln Lys Glu Lys  
450 455 460

Asn Lys Val Lys Lys Arg Lys Glu Thr Lys Gly Arg Glu Val  
465 470 475 480

Arg Phe Gly Lys Arg Ser Asp Lys Phe Cys Ser Ser Glu Ser Glu Ser  
485 490 495

Glu Ser Ser Glu Ser Gly Glu Asp Asp Arg Asp Ser Leu Gly Ser Ser  
500 505 510

Gly Cys Leu Lys Gly Ser Pro Leu Val Leu Lys Asp Pro Ser Leu Phe  
515 520 525

Ser Ser Leu Ser Ala Ser Ser Thr Ser Ser His Gly Ser Ser Ala Ala  
530 535 540

Gln Lys Gln Asn Asp Gln His Thr Lys His Trp Lys Thr Ile Ser Ser  
545 550 555 560

Pro Ala Trp Ser Glu Val Ser Ser Leu Ser Asp Ser Thr Arg Thr Arg  
565 570 575

Leu Thr Ser Glu Ser Asp Tyr Ser Ser Glu Gly Ser Ser Val Glu Ser  
580 585 590

Leu Lys Pro Val Arg Lys Arg Gln Glu His Arg Lys Arg Ala Ser Leu  
595 600 605

Ser Glu Lys Lys Ser Pro Phe Leu Ser Ser Ala Glu Gly Ala Val Pro  
610 615 620

Lys Leu Asp Lys Glu Gly Lys Val Val Lys Lys His Lys Thr Lys His  
625 630 635 640

Lys His Lys Asn Lys Glu Lys Ile Ser Gln Glu Leu Lys Leu Lys Ser  
645 650 655

Phe Thr Tyr Glu Tyr Glu Asp Ser Lys Gln Lys Ser Asp Lys Ala Ile  
660 665 670

Leu Leu Glu Asn Asp Leu Ser Thr Glu Asn Lys Leu Lys Val Leu Lys  
675 680 685

His Asp Arg Asp His Phe Lys Lys Glu Glu Lys Leu Ser Lys Met Lys  
690 695 700

Leu Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Lys Ser Leu Lys Arg  
705 710 715 720

Ile Lys Asp Lys Leu Arg Leu Tyr Lys Glu Glu Arg Asp Lys Ile Ser  
725 730 735

Lys Glu Lys Glu Lys Ile Phe Lys Glu Asp Lys Glu Lys Leu Lys Lys  
740 745 750

Glu Lys Val Tyr Arg Glu Asp Ser Leu Ser Asp Arg Asp Ser Ser Phe  
755 760 765

Asp Phe Lys Gly Ala Lys Leu Ile Leu Glu Thr Val Lys Glu Asp Ser  
770 775 780

Lys Glu Arg Arg Arg Asp Ser Arg Ala Arg Glu Lys His Pro Ala Arg  
785 790 795 800

Glu Lys Glu Lys Pro Asp Lys Arg Lys Arg Tyr Lys Glu Lys Asp Lys  
805 810 815

Asp Lys Ser Glu Lys Ser Ile Leu Glu Lys Cys Gln Lys Asp Lys Glu  
820 825 830

Lys Lys Glu Lys His Lys Asp Thr His Gly Lys Asp Lys Glu Arg Lys  
835 840 845

Ala Ser Val Phe Glu Lys His Lys Glu Lys Lys Asp Lys Glu Ser Thr  
850 855 860

Glu Lys Tyr Lys Asp Arg Ala Ser Val Asp Ser Thr Gln Asp Lys Lys  
865 870 875 880

Asn Lys Gln Glu Lys Ala Glu Lys Lys His Ala Ala Glu Asp Lys Ala  
885 890 895

Lys Ser Lys His Lys Glu Lys Ser Asp Lys Glu His Ser Lys Glu Arg  
900 905 910

Lys Ser Ser Arg Ser Ala Asp Ala Glu Tyr Arg Glu Ser Glu Val Ser  
915 920 925

Ser Asp Ser Phe Thr Asp Arg Glu Asp Asp Lys Ser Ala Cys Leu Pro  
930 935 940

Glu Lys Leu Lys Glu Lys Arg His Arg His Ser Ser Ser Ser Lys  
945 950 955 960

Lys Ser His Asp Arg Glu Glu Lys Lys Glu Asp Tyr Lys Glu Gly Arg  
965 970 975

Lys Gly Gln Tyr Glu Lys Asp Leu Glu Ala Asp Ala Tyr Gly Val Ser  
980 985 990

Tyr Asn Met Lys Ala Ile Glu Leu Phe Glu Lys Lys Asp Lys Asn Asp  
995 1000 1005

Glu Pro Leu Lys Glu Lys Lys Arg Glu Lys His Arg Glu Lys Trp  
1010 1015 1020

Arg Asp Glu Lys Glu Arg His Arg Asp Arg His Ala Asp Arg Pro Lys  
1025 1030 1035 1040

Pro Ser Lys Asp Pro Gly Lys Lys Asp Ala Arg Pro Arg Glu Lys Leu  
1045 1050 1055

Leu Gly Asp Gly Asp Leu Met Met Thr Ser Phe Glu Arg Met Leu Ser  
1060 1065 1070

Gln Lys Asp Leu Glu Ile Glu Glu Arg His Lys Arg His Lys Glu Arg  
1075 1080 1085

Met Lys Gln Met Glu Lys Leu Arg His Arg Ser Gly Asp Pro Lys Leu  
1090 1095 1100

Lys Glu Lys Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Asp  
1105 1110 1115 1120

Ile Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys  
1125 1130 1135

Lys Leu Lys Glu Ser Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Leu  
1140 1145 1150

His Pro Ala Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His  
1155 1160 1165

Met Lys Glu Val Leu Pro Ala Ser Pro Arg Pro Asp Gln Ser Arg Pro  
1170 1175 1180

Thr Gly Val Pro Thr Pro Thr Ser Val Leu Ser Cys Pro Ser Tyr Glu  
1185 1190 1195 1200

Glu Val Met His Thr Pro Arg Thr Pro Ser Cys Ser Ala Asp Asp Tyr  
1205 1210 1215

Ala Asp Leu Val Phe Asp Cys Ala Asp Ser Gln His Ser Thr Pro Val  
1220 1225 1230

Pro Thr Ala Pro Thr Ser Ala Cys Ser Pro Ser Phe Phe Asp Arg Phe  
1235 1240 1245

Ser Val Ala Ser Ser Gly Leu Ser Glu Asn Ala Ser Gln Ala Pro Ala  
1250 1255 1260

Arg Pro Leu Ser Thr Asn Leu Tyr Arg Ser Val Ser Val Asp Ile Asp  
1265 1270 1275 1280

Lys Leu Phe Arg Gln Gln Ser Val Pro Ala Ala Ser Ser Tyr Asp Ser  
1285 1290 1295

Pro Met Pro Pro Ser Met Glu Asp Arg Ala Pro Leu Pro Pro Val Pro  
1300 1305 1310

Ala Glu Lys Phe Ala Cys Leu Ser Pro Gly Tyr Tyr Ser Pro Asp Tyr  
1315 1320 1325

Gly Leu Pro Ser Pro Lys Val Asp Ala Leu His Cys Pro Pro Ala Ala  
1330 1335 1340

Val Val Thr Val Thr Pro Ser Pro Glu Gly Val Phe Ser Ser Leu Gln  
1345 1350 1355 1360

Ala Lys Pro Ser Pro Ser Pro Ser Leu Asp Thr Ser Glu Asp Gln  
1365 1370 1375

Gln Ala Thr Ala Ala Ile Ile Pro Pro Glu Pro Ser Tyr Leu Glu Pro  
1380 1385 1390

Leu Asp Glu Gly Pro Phe Ser Ala Val Ile Thr Glu Glu Pro Val Glu  
1395 1400 1405

Trp Ala His Pro Ser Glu Gln Ala Leu Ala Ser Ser Leu Ile Gly Gly  
1410 1415 1420

Thr Ser Glu Asn Pro Val Ser Trp Pro Val Gly Ser Asp Leu Leu Leu  
1425 1430 1435 1440

Lys Ser Pro Gln Arg Phe Pro Glu Ser Pro Lys Arg Phe Cys Pro Ala  
1445 1450 1455

Asp Pro Leu His Ser Ala Ala Pro Gly Pro Phe Ser Ala Ser Glu Ala  
1460 1465 1470

Pro Tyr Pro Ala Pro Pro Ala Ser Pro Ala Pro Tyr Ala Leu Pro Val  
1475 1480 1485

Ala Glu Leu Glu Asp Val Lys Asp Val Pro Ala Ala Ile Ser Thr Ser  
1490 1495 1500

Glu Ala Ala Pro Tyr Ala Pro Pro Ser Gly Leu Glu Ser Phe Phe Ser  
1505 1510 1515 1520

Asn Cys Lys Ser Leu Pro Glu Ala Pro Leu Asp Val Ala Pro Glu Ala  
1525 1530 1535

Leu Gly Pro Leu Glu Asn Ser Phe Leu Asp Gly Ser Arg Gly Leu Ser  
1540 1545 1550

His Leu Gly Gln Val Glu Pro Val Pro Trp Ala Asp Ala Phe Ala Gly  
1555 1560 1565

Pro Glu Asp Asp Leu Asp Leu Gly Pro Phe Ser Leu Pro Glu Leu Pro  
1570 1575 1580

Leu Gln Thr Lys Asp Ala Ala Asp Gly Glu Ala Glu Pro Val Glu Glu  
1585 1590 1595 1600

Ser Leu Ala Pro Pro Glu Glu Met Pro Pro Gly Ala Pro Arg Glu Leu  
1605 1610 1615

Glu Pro Glu Pro Ser Gly Glu Pro Lys Leu Asp Val Ala Leu Glu Ala  
1620 1625 1630

Ala Val Glu Ala Glu Thr Val Pro Glu Glu Arg Ala Arg Gly Asp Pro  
1635 1640 1645

Asp Ser Ser Val Glu Pro Ala Pro Val Pro Pro Glu Gln Leu Gly Ser  
1650 1655 1660

Gly Asp Pro Ser Leu Cys Ala Pro Asp Gly Pro Ala Pro Asn Thr Val  
1665 1670 1675 1680

Ala Gln Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu  
1685 1690 1695

Ala Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gln Pro Glu  
1700 1705 1710

Ala Ala Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg Glu  
1715 1720 1725

Ile Pro Gln Arg Met Thr Arg Asn Arg Ala Gln Met Leu Ala Asn Gln  
1730 1735 1740

Ser Lys Gln Gly Pro Pro Pro Ser Glu Lys Glu Cys Ala Pro Thr Pro  
1745 1750 1755 1760

Ala Pro Val Thr Arg Ala Lys Ala Arg Gly Ser Glu Asp Asp Asp Ala  
1765 1770 1775

Gln Ala Gln His Pro Arg Lys Arg Arg Phe Gln Arg Ser Thr Gln Gln  
1780 1785 1790

Leu Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln Gln  
1795 1800 1805

Thr Leu Ala Ala Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Glu Pro  
1810 1815 1820

Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Tyr Leu Gln Ile Arg  
1825 1830 1835 1840

Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro Gln  
1845 1850 1855

Ala Pro Gln Cys Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr Leu  
1860 1865 1870

Leu Asp Gly Lys Pro Leu Ser Lys Leu His Ile Pro Val Ile Ala Pro  
1875 1880 1885

Pro Pro Ser Leu Ala Glu Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu  
 1890 1895 1900  
  
 Ala Val Arg Gly Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys  
 1905 1910 1915 1920  
  
 Leu Ile Val Ser Cys Glu Gln Glu Ile Leu Arg Val His Cys Arg Ala  
 1925 1930 1935  
  
 Ala Arg Thr Ile Ala Asn Gln Ala Val Pro Phe Ser Ala Cys Thr Met  
 1940 1945 1950  
  
 Leu Leu Asp Ser Glu Val Tyr Asn Met Pro Leu Glu Ser Gln Gly Asp  
 1955 1960 1965  
  
 Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Ile Ser  
 1970 1975 1980  
  
 Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg Met Lys Val Cys Leu  
 1985 1990 1995 2000  
  
 Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg  
 2005 2010 2015  
  
 Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp Pro Ala Gly His Lys  
 2020 2025 2030  
  
 Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr Val Pro Met Val Asp  
 2035 2040 2045  
  
 Val Asn Asp Asp Phe Val Leu Leu Pro Ala  
 2050 2055

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 <211> 1749  
 <212> DNA  
 <213> Homo sapiens

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 aaggaagccg gtgagaagcc tcggggagca cagatggtgg acaaggctgg ctggatcaag 180  
 aagagcagtg gggcctcct gggttctgg aaagaccgat atctgctcct ctgccaggcc 240  
 cagctgctgg tctatgagaa tgaggatgat cagaagtgtg tggagactgt ggagctggc 300  
 agctatgaga agtgcagga cttcgtgcc ctcctcaagc gaaaacacccg ctatcctg 360  
 ctgcgatccc cagggAACAA ggtcagcgac atcaaattcc aggcacccac cggggaggag 420  
 aaggaatccc ggatcaaAGC cctcaatgaa gggattaacc gaggcaaaaa caaggcttc 480

gatgaggtaa aggtggacaa gagctgcgcc ctggagcatg tgacacggga ccgggtgcga 540  
 gggggccagc gacgccggcc accaacgaga gtccacctga aggaggtggc cagtgcagct 600  
 tctgacggtc ttctgcccgtt gatcttgcgtt ccggccacc agtgtttgcc 660  
 cccagcaatc atgtcagtga agcccaacct cgggagacac cccggccctt catgcctcct 720  
 accaagcctt tccttagcacc tgagaccacc agccctggta acagggtgga gaccctgtg 780  
 ggggagagag ccccaacccc tgcgtcagca agctctgagg tctccctga gagccaagag 840  
 gactcagaga ccccagcaga ggaggacagt ggctctgagc agcctccaa cagcgtcctg 900  
 cctgacaaac tgaaggtgag ctgggagaac cccagccccc aggaggccccc tgctgcagag 960  
 agtgcagaac cgtcccaggc accctgttct gagacttctg aggctgcccc cagggagggt 1020  
 gggaaagcccc ctacacccccc acccaagatc ttatcagaag aacacttgaag accctccatg 1080  
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 gcaagaatgg aaggactgag cattgccaag cactctaagg ctgaaggcac ccaaagaact 1200  
 tctccaaagg atgcactaac acaccaagca ctgccccctt gggacctgccc acctcagttc 1260  
 catcaccgct gctcccccctt tggggacttgc tttggggaaag gcccgcggca tcccttgcag 1320  
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 aaactgttga acaaggtgct gggcagttag cccggccctg ttagtgcga aacattgctc 1440  
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 ctccctact 1749

<210> 22  
 <211> 492  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
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Gln Met Val Asp Lys Ala Gly Trp Ile Lys Lys Ser Ser Gly Gly Leu  
 20 25 30

Leu Gly Phe Trp Lys Asp Arg Tyr Leu Leu Leu Cys Gln Ala Gln Leu  
 35 40 45

Leu Val Tyr Glu Asn Glu Asp Asp Gln Lys Cys Val Glu Thr Val Glu  
 50 55 60

Leu Gly Ser Tyr Glu Lys Cys Gln Asp Leu Arg Ala Leu Leu Lys Arg  
 65 70 75 80

Lys His Arg Phe Ile Leu Leu Arg Ser Pro Gly Asn Lys Val Ser Asp  
 85 90 95

Ile Lys Phe Gln Ala Pro Thr Gly Glu Glu Lys Glu Ser Trp Ile Lys  
100 105 110

Ala Leu Asn Glu Gly Ile Asn Arg Gly Lys Asn Lys Ala Phe Asp Glu  
115 120 125

Val Lys Val Asp Lys Ser Cys Ala Leu Glu His Val Thr Arg Asp Arg  
130 135 140

Val Arg Gly Gly Gln Arg Arg Arg Pro Pro Thr Arg Val His Leu Lys  
145 150 155 160

Glu Val Ala Ser Ala Ala Ser Asp Gly Leu Leu Arg Leu Asp Leu Asp  
165 170 175

Val Pro Asp Ser Gly Pro Pro Val Phe Ala Pro Ser Asn His Val Ser  
180 185 190

Glu Ala Gln Pro Arg Glu Thr Pro Arg Pro Leu Met Pro Pro Thr Lys  
195 200 205

Pro Phe Leu Ala Pro Glu Thr Thr Ser Pro Gly Asp Arg Val Glu Thr  
210 215 220

Pro Val Gly Glu Arg Ala Pro Thr Pro Val Ser Ala Ser Ser Glu Val  
225 230 235 240

Ser Pro Glu Ser Gln Glu Asp Ser Glu Thr Pro Ala Glu Glu Asp Ser  
245 250 255

Gly Ser Glu Gln Pro Pro Asn Ser Val Leu Pro Asp Lys Leu Lys Val  
260 265 270

Ser Trp Glu Asn Pro Ser Pro Gln Glu Ala Pro Ala Ala Glu Ser Ala  
275 280 285

Glu Pro Ser Gln Ala Pro Cys Ser Glu Thr Ser Glu Ala Ala Pro Arg  
290 295 300

Glu Gly Gly Lys Pro Pro Thr Pro Pro Pro Lys Ile Leu Ser Glu Glu  
305 310 315 320

His Leu Lys Ala Ser Met Gly Glu Met Gln Ala Ser Gly Pro Pro Ala  
325 330 335

Pro Gly Thr Val Lys Gly Leu Ser Gln Met Ala Arg Met Glu Gly Leu  
340 345 350

Ser Ile Ala Lys His Ser Lys Ala Glu Gly Thr Gln Arg Thr Ser Pro  
 355 360 365  
  
 Lys Asp Ala Leu Thr His Gln Ala Leu Pro Pro Trp Asp Leu Pro Pro  
 370 375 380  
  
 Gln Phe His His Arg Cys Ser Ser Leu Gly Asp Leu Leu Gly Glu Gly  
 385 390 395 400  
  
 Pro Arg His Pro Leu Gln Pro Arg Gln Arg Leu Tyr Arg Ala Gln Leu  
 405 410 415  
  
 Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu Asn Lys Val  
 420 425 430  
  
 Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu Leu Ser Gln  
 435 440 445  
  
 Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln Glu Met Arg  
 450 455 460  
  
 Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg Glu Lys Arg  
 465 470 475 480  
  
 Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro  
 485 490

<210> 23  
 <211> 1491  
 <212> DNA  
 <213> Homo sapiens

<400> 23  
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 tgcattttcc tggcctggct gggcgtcttt gcaggcagct ggctggtgta cgtgcactac 180  
 tcgtcctact cggagcgctg tcgcggccat gtctggcagg tggtcatttg tgaccagttac 240  
 cgcaagggga tcatctcgaa ctccgtctgc caggacctgt gtgagctgca tatggtggag 300  
 tggaggaccc gccttcgggt gccccggc cagcagggtt acagcgggct ctggcgggac 360  
 aaggatgtaa ccatcaagtg tggcatttag gagaccctcg actccaaggc ccggtcggat 420  
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 gaattccggg agatgaccct cggcttcctc aaggcgaacc tgggagacct gccttcctg 540  
 cccggcgtgg ttggccaggt cctgctcatg gctgacttca acaaggacaa ccgggtgtcc 600  
 ctggcggaaag ccaagtccgt gtggccctg ctgcagcgta acgagttctt gctgctgtg 660  
 tccctgcagg agaaggagca cgcctccaga ctgctggctt actgtgggaa cctctaccc 720  
 acccgagggcg tgccgcatgg cgcctggcac gcggccccc ttccaccctt gttgcgccc 780  
 ctgctggccgc ctgccttgca gggtgctctc cagcagtggc tggggcctgca gtggcccttgg 840

cgggccaaga tcgcccacgg cctgctggag ttcgtggagg agctttcca cggctcttac 900  
gggactttct acatgtgtga gaccacactg gccaacgtgg gctacacacgc cacctacgac 960  
ttcaagatgg ccgacactgca gcaggtggca cccgaggcca cctgtgcggc cttccctgcag 1020  
ggccgcccgtc gcgagcacag caccgactgc acctacggc gcgactgcag ggccccgtgt 1080  
gacagggctca tgaggcagtg caagggcgcac ctcatccagc ccaacactggc caaggtgtgc 1140  
gcactgctac ggggctacac gctgcctggc gcgccggcc acctccgcga ggagctggc 1200  
acacagctgc gcacctgtac cacgctgagc gggctggca gccaggtgga ggcccatcac 1260  
tcgctgggtc tcagccacct caagactctg ctcttgaaga agatctccaa caccaggatc 1320  
tcttgatggg gcagtgaggg gcctggccac cttccctggc gctggccagg tgccagggtc 1380  
caaccctccc tcaaggagag tcctccaagg gggtttgtta ctctgaagaa cgtaatgtca 1440  
ataaacagct tttatgtaat gcccagggtc gaggcaccctg agccccatc a 1491

<210> 24

<211> 431

<212> PRT

<213> Homo sapiens

<400> 24

Met Arg Arg Leu Arg Arg Leu Ala His Leu Val Leu Phe Cys Pro Phe  
1 5 10 15

Ser Lys Arg Leu Gln Gly Arg Leu Pro Gly Leu Arg Val Arg Cys Ile  
20 25 30

Phe Leu Ala Trp Leu Gly Val Phe Ala Gly Ser Trp Leu Val Tyr Val  
35 40 45

His Tyr Ser Ser Tyr Ser Glu Arg Cys Arg Gly His Val Cys Gln Val  
50 55 60

Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser Gly Ser Val Cys  
65 70 75 80

Gln Asp Leu Cys Glu Leu His Met Val Glu Trp Arg Thr Cys Leu Ser  
85 90 95

Val Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp Arg Asp Lys Asp  
100 105 110

Val Thr Ile Lys Cys Gly Ile Glu Glu Thr Leu Asp Ser Lys Ala Arg  
115 120 125

Ser Asp Ala Ala Pro Arg Arg Glu Leu Val Leu Phe Asp Lys Pro Thr  
130 135 140

Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr Leu Gly Phe Leu  
145 150 155 160

Lys Ala Asn Leu Gly Asp Leu Pro Ser Leu Pro Ala Leu Val Gly Gln  
165 170 175

Val Leu Leu Met Ala Asp Phe Asn Lys Asp Asn Arg Val Ser Leu Ala  
180 185 190

Glu Ala Lys Ser Val Trp Ala Leu Leu Gln Arg Asn Glu Phe Leu Leu  
195 200 205

Leu Leu Ser Leu Gln Glu Lys Glu His Ala Ser Arg Leu Leu Gly Tyr  
210 215 220

Cys Gly Asp Leu Tyr Leu Thr Glu Gly Val Pro His Gly Ala Trp His  
225 230 235 240

Ala Ala Ala Leu Pro Pro Leu Leu Arg Pro Leu Leu Pro Pro Ala Leu  
245 250 255

Gln Gly Ala Leu Gln Gln Trp Leu Gly Pro Ala Trp Pro Trp Arg Ala  
260 265 270

Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu Leu Phe His Gly  
275 280 285

Ser Tyr Gly Thr Phe Tyr Met Cys Glu Thr Thr Leu Ala Asn Val Gly  
290 295 300

Tyr Thr Ala Thr Tyr Asp Phe Lys Met Ala Asp Leu Gln Gln Val Ala  
305 310 315 320

Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg Arg Cys Glu His  
325 330 335

Ser Thr Asp Cys Thr Tyr Gly Arg Asp Cys Arg Ala Pro Cys Asp Arg  
340 345 350

Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro Asn Leu Ala Lys  
355 360 365

Val Cys Ala Leu Leu Arg Gly Tyr Leu Leu Pro Gly Ala Pro Ala Asp  
370 375 380

Leu Arg Glu Glu Leu Gly Thr Gln Leu Arg Thr Cys Thr Thr Leu Ser  
385 390 395 400

Gly Leu Ala Ser Gln Val Glu Ala His His Ser Leu Val Leu Ser His  
405 410 415

Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Asn Thr Lys Tyr Ser  
420 425 430

<210> 25  
<211> 1062  
<212> DNA  
<213> Homo sapiens

<400> 25  
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tcgttaggcaa caccaccatc atcctgggt cccgctgga ccccccaccc cacaccccca 180  
tgtacttctt cctcgccac ctttccttcc tggacactag tttcaccacc agctccatcc 240  
cccagctgct ctacaacctt aatggatgtg acaagaccat cagctacatg ggctgtgcca 300  
tccagctctt cctgttcctg ggtctgggt gttgtggatg cctgcttctg gctgtcatgg 360  
cctatgaccc gtgtgtggct atctgcaagc ccctgcacta catggtgatc atgaacccca 420  
ggctctgccc gggcttggtg tcagtgaccc gggctgtgg ggtggccaac tccttggcca 480  
tgtctctgt gaccctgcgc ttaccccgct gtggcacca cgaggtggac cacttcctgc 540  
gtgagatgcc cgccctgatc cggatggcct gctgcacac tggccatc gaaggcaccc 600  
tctttgtcct gaaaaaaggt gttgtgtgt ccccttggt gtttatcctg ctcttttaca 660  
gctacattgt gagggctgtg ttacaaatc gtcagcatc aggaaggcag aaggccttcg 720  
gcacctgcgg ctcccatctc actgtggctt ccctttctt tggaaacatc atctacatgt 780  
acatgcagcc aggagccagt tcttcccagg accagggcat gttcctcatg ctcttttaca 840  
acattgtcac ccccttcctc aatcctctca tctacaccct cagaaacaga gaggtgaagg 900  
gggcactggg aagtttgctt ctggggaaaga gagagctagg aaaggagtaa aggcatctcc 960  
acctgacttc acttccatcc agggccactg gcagcatctg gaacggctga attccagctg 1020  
atattagccc acgactccca acttgcctt ttctggactt tt 1062

<210> 26  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 26  
Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu  
20 25 30

Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val  
35 40 45

Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60

His	Leu	Ser	Phe	Leu	Asp	Leu	Ser	Phe	Thr	Thr	Ser	Ser	Ile	Pro	Gln
65															80
Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly															
									85						95
Cys	Ala	Ile	Gln	Leu	Phe	Leu	Phe	Leu	Gly	Leu	Gly	Gly	Val	Glu	Cys
															100
										105					110
Leu	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Cys	Val	Ala	Ile	Cys	Lys
															115
											120				125
Pro	Leu	His	Tyr	Met	Val	Ile	Met	Asn	Pro	Arg	Leu	Cys	Arg	Gly	Leu
															130
									135						140
Val	Ser	Val	Thr	Trp	Gly	Cys	Gly	Val	Ala	Asn	Ser	Leu	Ala	Met	Ser
															145
										150					160
Pro	Val	Thr	Leu	Arg	Leu	Pro	Arg	Cys	Gly	His	His	Glu	Val	Asp	His
															165
										170					175
Phe	Leu	Arg	Glu	Met	Pro	Ala	Leu	Ile	Arg	Met	Ala	Cys	Val	Ser	Thr
															180
										185					190
Val	Ala	Ile	Glu	Gly	Thr	Val	Phe	Val	Leu	Lys	Lys	Gly	Val	Val	Leu
															195
									200						205
Ser	Pro	Leu	Val	Phe	Ile	Leu	Leu	Ser	Tyr	Ser	Tyr	Ile	Val	Arg	Ala
															210
							215								220
Val	Leu	Gln	Ile	Arg	Ser	Ala	Ser	Gly	Arg	Gln	Lys	Ala	Phe	Gly	Thr
															225
								230			235				240
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Leu	Phe	Tyr	Gly	Asn	Ile	Ile
															245
									250						255
Tyr	Met	Tyr	Met	Gln	Pro	Gly	Ala	Ser	Ser	Ser	Gln	Asp	Gln	Gly	Met
															260
									265						270
Phe	Leu	Met	Leu	Phe	Tyr	Asn	Ile	Val	Thr	Pro	Leu	Leu	Asn	Pro	Leu
															275
								280							285
Ile	Tyr	Thr	Leu	Arg	Asn	Arg	Glu	Val	Lys	Gly	Ala	Leu	Gly	Arg	Leu
															290
									295						300
Leu	Leu	Gly	Lys	Arg	Glu	Leu	Gly	Lys	Glu						
															305
										310					

<210> 27  
<211> 1062  
<212> DNA  
<213> Homo sapiens

<400> 27  
tagagatgga tggaaccaat ggcagcaccc aaaccattt catcctactg ggattctctg 60  
accgacccca tctggagagg atcctcttg tggtcatcct gatcgctac ctcctgaccc 120  
tcgttaggcaa caccaccatc atcctgggtt cccgctgga ccccccaccc cacaccccca 180  
tgtacttctt cctcgccac ctttccttcc tggacctcag tttcaccacc agctccatcc 240  
cccagctgt ctacaacctt aatggatgtg acaagaccat cagctacatg ggctgtgcca 300  
tccagctctt cctgttcctg ggtctgggtt gtgtggagtg cctgcttctg gctgtcatgg 360  
cctatgaccg gtgtgtggct atctgcaagc ccctgcacta catggtgatc atgaacccca 420  
ggctctgccc gggcttgggt tcagtgacct gggctgtgg ggtggccaa tccttggcca 480  
tgtctctgt gaccctgcgc ttaccccgct gtggcacca cgaggtggac cacttcctgc 540  
gtgagatgcc cgccctgatc cggatggcct gcgtcagcac tgtggccatc gacggcaccc 600  
tctttgtcct ggcgggtgggt gttgtctgt ccccttgggt gtttacccctg ctcttcttaca 660  
gctacattgt gagggtctgt ttacaaattc ggtcagcatc aggaaggcag aaggccctcg 720  
gcacctgccc ctcccatctc actgtggctt ccctttcttca tggaaacatc atctacatgt 780  
acatgcagcc aggagccagt tttcccagg accagggcat gttcctcatg ctcttcttaca 840  
acattgtcac cccctcttc aatccctctca tctacaccct cagaaacaga gaggtgaagg 900  
gggcactggg aaggttgctt ttggggaaaga gagagctagg aaaggagtaa aggcattcc 960  
acctgacttc acttccatcc agggccactg gcagcatctg gaacggctga attccagctg 1020  
atattagccc acgactccca acttgcctt ttctggactt tt 1062

<210> 28  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 28  
Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly  
1 5 10 15  
Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu  
20 25 30  
Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val  
35 40 45  
Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60  
His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln  
65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly  
85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys  
100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys  
115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu  
130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser  
145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His  
165 170 175

Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr  
180 185 190

Val Ala Ile Asp Gly Thr Val Phe Val Leu Ala Val Gly Val Val Leu  
195 200 205

Ser Pro Leu Val Phe Ile Leu Ser Tyr Ser Tyr Ile Val Arg Ala  
210 215 220

Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr  
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile  
245 250 255

Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met  
260 265 270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu  
275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu  
290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu  
305 310

<211> 624  
<212> DNA  
<213> Homo sapiens

<400> 29  
ctttgagctt ctctgactgc tgaccactga cccaccgact tgatgacagc accctcggtgt 60  
gccttcccaag ttcaaattccg gcagccctca gtcagccggcc tctcgcagat aacccaaaagc 120  
ctgttatataca gcaatgggtgt ggccgcacaa aacaagctca tgctgtctag caaccagatc 180  
accatggtca tcaatgtctc agtggaggtt gtgaacaccc tttatgagga tatccagttac 240  
atgcagggtac ctgtggctga ctcccctaacc tcacgtctct gtgacttctt tgaccctatt 300  
gctgaccata tccacagcgt ggagatgaag cagggccgtt ctttgctgca ctgtgctgct 360  
ggtgtgagcc gtcagctgc cctgtgcctc gcctacctca tgaagtacca cgcctatgtcc 420  
ctgctggacg cccacacgtt gaccaagtca tgccggccca tcatccgacc caacagcggc 480  
ttttgggagc agtcatcca ctatgagttt caattgtttt gcaagaacac tgtgcacatg 540  
gtcagttccc cagtggaaat gatccctgac atctatgaga aggaagtccg tttatgatt 600  
ccactgttag ccatccccacg agcc 624

<210> 30  
<211> 188  
<212> PRT  
<213> Homo sapiens

<400> 30  
Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Ile Arg Gln Pro Ser  
1 5 10 15  
  
Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly  
20 25 30  
  
Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met  
35 40 45  
  
Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile  
50 55 60  
  
Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys  
65 70 75 80  
  
Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys  
85 90 95  
  
Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala  
100 105 110  
  
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu  
115 120 125

Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn  
130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly  
145 150 155 160

Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp  
165 170 175

Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu  
180 185

<210> 31

<211> 1034

<212> PRT

<213> Mus musculus

<400> 31

Met Pro Leu Cys Pro Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr  
1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser  
20 25 30

Phe Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu  
35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala  
50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met  
65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg  
85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys  
100 105 110

Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp  
115 120 125

Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys  
130 135 140

Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Ala  
145 150 155 160

Cys	Phe	Cys	Pro	Ser	Gly	Leu	Gln	Pro	Pro	Asn	Cys	Leu	Gln	Pro	Cys			
														165	170	175		
Pro	Ala	Gly	His	Tyr	Gly	Pro	Ala	Cys	Gln	Phe	Asp	Cys	Gln	Cys	Tyr			
															180	185	190	
Gly	Ala	Ser	Cys	Asp	Pro	Gln	Asp	Gly	Ala	Cys	Phe	Cys	Pro	Pro	Gly			
															195	200	205	
Arg	Ala	Gly	Pro	Ser	Cys	Asn	Val	Pro	Cys	Ser	Gln	Gly	Thr	Asp	Gly			
															210	215	220	
Phe	Phe	Cys	Pro	Arg	Thr	Tyr	Pro	Cys	Gln	Asn	Gly	Gly	Val	Pro	Gln			
															225	230	235	240
Gly	Ser	Gln	Gly	Ser	Cys	Ser	Cys	Pro	Pro	Gly	Trp	Met	Gly	Val	Ile			
															245	250	255	
Cys	Ser	Leu	Pro	Cys	Pro	Glu	Gly	Phe	His	Gly	Pro	Asn	Cys	Thr	Gln			
															260	265	270	
Glu	Cys	Arg	Cys	His	Asn	Gly	Gly	Leu	Cys	Asp	Arg	Phe	Thr	Gly	Gln			
															275	280	285	
Cys	His	Cys	Ala	Pro	Gly	Tyr	Ile	Gly	Asp	Arg	Cys	Gln	Glu	Glu	Cys			
															290	295	300	
Pro	Val	Gly	Arg	Phe	Gly	Gln	Asp	Cys	Ala	Glu	Thr	Cys	Asp	Cys	Ala			
															305	310	315	320
Pro	Gly	Ala	Arg	Cys	Phe	Pro	Ala	Asn	Gly	Ala	Cys	Leu	Cys	Glu	His			
															325	330	335	
Gly	Phe	Thr	Gly	Asp	Arg	Cys	Thr	Glu	Arg	Leu	Cys	Pro	Asp	Gly	Arg			
															340	345	350	
Tyr	Gly	Leu	Ser	Cys	Gln	Glu	Pro	Cys	Thr	Cys	Asp	Pro	Glu	His	Ser			
															355	360	365	
Leu	Ser	Cys	His	Pro	Met	His	Gly	Glu	Cys	Ser	Cys	Gln	Pro	Gly	Trp			
															370	375	380	
Ala	Gly	Leu	His	Cys	Asn	Glu	Ser	Cys	Pro	Gln	Asp	Thr	His	Gly	Pro			
															385	390	395	400
Gly	Cys	Gln	Glu	His	Cys	Leu	Cys	Leu	His	Gly	Gly	Leu	Cys	Leu	Ala			
															405	410	415	

Asp Ser Gly Leu Cys Arg Cys Ala Pro Gly Tyr Thr Gly Pro His Cys  
                  420                 425                 430  
  
 Ala Asn Leu Cys Pro Pro Asp Thr Tyr Gly Ile Asn Cys Ser Ser Arg  
                  435                 440                 445  
  
 Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Thr Cys  
                  450                 455                 460  
  
 Ile Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro  
                  465                 470                 475                 480  
  
 Leu Gly Thr Trp Gly Phe Asn Cys Asn Ala Ser Cys Gln Cys Ala His  
                  485                 490                 495  
  
 Asp Gly Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly  
                  500                 505                 510  
  
 Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly  
                  515                 520                 525  
  
 Glu Gly Cys Ala Ser Val Cys Asp Cys Asp His Ser Asp Gly Cys Asp  
                  530                 535                 540  
  
 Pro Val His Gly Gln Cys Arg Cys Gln Ala Gly Trp Met Gly Thr Arg  
                  545                 550                 555                 560  
  
 Cys His Leu Pro Cys Pro Glu Gly Phe Trp Gly Ala Asn Cys Ser Asn  
                  565                 570                 575  
  
 Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Val Ser Glu Asn Gly Asn  
                  580                 585                 590  
  
 Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Pro Cys  
                  595                 600                 605  
  
 Pro Pro Gly Arg Tyr Gly Lys Arg Cys Val Gln Cys Lys Cys Asn Asn  
                  610                 615                 620  
  
 Asn His Ser Ser Cys His Pro Ser Asp Gly Thr Cys Ser Cys Leu Ala  
                  625                 630                 635                 640  
  
 Gly Trp Thr Gly Pro Asp Cys Ser Glu Ala Cys Pro Pro Gly His Trp  
                  645                 650                 655  
  
 Gly Leu Lys Cys Ser Gln Leu Cys Gln Cys His His Gly Gly Thr Cys  
                  660                 665                 670

His Pro Gln Asp Gly Ser Cys Ile Cys Thr Pro Gly Trp Thr Gly Pro  
675 680 685

Asn Cys Leu Glu Gly Cys Pro Pro Arg Met Phe Gly Val Asn Cys Ser  
690 695 700

Gln Leu Cys Gln Cys Asp Leu Gly Glu Met Cys His Pro Gln Thr Gly  
705 710 715 720

Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Asp Cys Lys Met Gly  
725 730 735

Ser Gln Glu Ser Phe Thr Ile Met Pro Thr Ser Pro Val Thr His Asn  
740 745 750

Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Thr Leu Val Val  
755 760 765

Ala Leu Ile Ala Leu Phe Ile Gly Tyr Arg Gln Trp Gln Lys Gly Lys  
770 775 780

Glu His Glu His Leu Ala Val Ala Tyr Ser Thr Gly Arg Leu Asp Gly  
785 790 795 800

Ser Asp Tyr Val Met Pro Asp Val Ser Pro Ser Tyr Ser His Tyr Tyr  
805 810 815

Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro  
820 825 830

Pro Pro Asn Lys Val Pro Gly Ser Gln Leu Phe Val Ser Ser Gln Ala  
835 840 845

Pro Glu Arg Pro Ser Arg Ala His Gly Arg Glu Asn His Val Thr Leu  
850 855 860

Pro Ala Asp Trp Lys His Arg Arg Glu Pro His Glu Arg Gly Ala Ser  
865 870 875 880

His Leu Asp Arg Ser Tyr Ser Cys Ser Tyr Ser His Arg Asn Gly Pro  
885 890 895

Gly Pro Phe Cys His Lys Gly Pro Ile Ser Glu Glu Gly Leu Gly Ala  
900 905 910

Ser Val Met Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg Asp  
915 920 925

Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met  
930 935 940

Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg  
945 950 955 960

Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr  
965 970 975

Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr  
980 985 990

Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly Gln Tyr Asp Ser Pro Lys  
995 1000 1005

Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro  
1010 1015 1020

Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg  
1025 1030

<210> 32  
<211> 1034  
<212> PRT  
<213> Mus musculus

<400> 32  
Met Pro Leu Cys Pro Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr  
1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser  
20 25 30

Phe Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu  
35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala  
50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met  
65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg  
85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys

100	105	110
Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp		
115	120	125
Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys		
130	135	140
Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Thr		
145	150	155
160		
Cys Phe Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln Pro Cys		
165	170	175
Pro Ala Gly His Tyr Gly Pro Ala Cys Gln Phe Asp Cys Gln Cys Tyr		
180	185	190
Gly Ala Ser Cys Asp Pro Gln Asp Gly Ala Cys Phe Cys Pro Pro Gly		
195	200	205
Arg Ala Gly Pro Ser Cys Asn Val Pro Cys Ser Gln Gly Thr Asp Gly		
210	215	220
Phe Phe Cys Pro Arg Thr Tyr Pro Cys Gln Asn Gly Gly Val Pro Gln		
225	230	235
240		
Gly Ser Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly Val Ile		
245	250	255
Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys Thr Gln		
260	265	270
Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln		
275	280	285
Cys His Cys Ala Pro Gly Tyr Ile Gly Asp Arg Cys Gln Glu Glu Cys		
290	295	300
Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala		
305	310	315
320		
Pro Gly Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His		
325	330	335
Gly Phe Thr Gly Asp Arg Cys Thr Glu Arg Leu Cys Pro Asp Gly Arg		
340	345	350
Tyr Gly Leu Ser Cys Gln Glu Pro Cys Thr Cys Asp Pro Glu His Ser		

355	360	365
Leu Ser Cys His Pro Met His Gly Glu Cys Ser Cys Gln Pro Gly Trp		
370	375	380
Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro		
385	390	395
Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Leu Cys Leu Ala		
405	410	415
Asp Ser Gly Leu Cys Arg Cys Ala Pro Gly Tyr Thr Gly Pro His Cys		
420	425	430
Ala Asn Leu Cys Pro Pro Asp Thr Tyr Gly Ile Asn Cys Ser Ser Arg		
435	440	445
Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Thr Cys		
450	455	460
Ile Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro		
465	470	475
480		
Leu Gly Thr Trp Gly Phe Asn Cys Asn Ala Ser Cys Gln Cys Ala His		
485	490	495
Asp Gly Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly		
500	505	510
Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly		
515	520	525
Glu Gly Cys Ala Ser Val Cys Asp Cys Asp His Ser Asp Gly Cys Asp		
530	535	540
Pro Val His Gly Gln Cys Arg Cys Gln Ala Gly Trp Met Gly Thr Arg		
545	550	555
560		
Cys His Leu Pro Cys Pro Glu Gly Phe Trp Gly Ala Asn Cys Ser Asn		
565	570	575
Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Val Ser Glu Asn Gly Asn		
580	585	590
Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Pro Cys		
595	600	605
Pro Pro Gly Arg Tyr Gly Lys Arg Cys Val Gln Cys Lys Cys Asn Asn		

610                    615                    620  
Asn His Ser Ser Cys His Pro Ser Asp Gly Thr Cys Ser Cys Leu Ala  
625                    630                    635                    640  
Gly Trp Thr Gly Pro Asp Cys Ser Glu Ala Cys Pro Pro Gly His Trp  
645                    650                    655  
Gly Leu Lys Cys Ser Gln Leu Cys Gln Cys His His Gly Gly Thr Cys  
660                    665                    670  
His Pro Gln Asp Gly Ser Cys Ile Cys Thr Pro Gly Trp Thr Gly Pro  
675                    680                    685  
Asn Cys Leu Glu Gly Cys Pro Pro Arg Met Phe Gly Val Asn Cys Ser  
690                    695                    700  
Gln Leu Cys Gln Cys Asp Leu Gly Glu Met Cys His Pro Glu Thr Gly  
705                    710                    715                    720  
Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Asp Cys Lys Met Gly  
725                    730                    735  
Ser Gln Glu Ser Phe Thr Ile Met Pro Thr Ser Pro Val Thr His Asn  
740                    745                    750  
Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Thr Leu Val Val  
755                    760                    765  
Ala Leu Ile Ala Leu Phe Ile Gly Tyr Arg Gln Trp Gln Lys Gly Lys  
770                    775                    780  
Glu His Glu His Leu Ala Val Ala Tyr Ser Thr Gly Arg Leu Asp Gly  
785                    790                    795                    800  
Ser Asp Tyr Val Met Pro Asp Val Ser Pro Ser Tyr Ser His Tyr Tyr  
805                    810                    815  
Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro  
820                    825                    830  
Pro Pro Asn Lys Val Pro Gly Ser Gln Leu Phe Val Ser Ser Gln Ala  
835                    840                    845  
Pro Glu Arg Pro Ser Arg Ala His Gly Arg Glu Asn His Val Thr Leu  
850                    855                    860  
Pro Ala Asp Trp Lys His Arg Arg Glu Pro His Glu Arg Gly Ala Ser

865	870	875	880
His Leu Asp Arg Ser Tyr Ser Cys Ser Tyr Ser His Arg Asn Gly Pro			
885	890	895	
Gly Pro Phe Cys His Lys Gly Pro Ile Ser Glu Glu Gly Leu Gly Ala			
900	905	910	
Ser Val Met Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg Asp			
915	920	925	
Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met			
930	935	940	
Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg			
945	950	955	960
Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr			
965	970	975	
Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr			
980	985	990	
Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp Ser Pro Lys			
995	1000	1005	
Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro			
1010	1015	1020	
Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg			
1025	1030		
<210> 33			
<211> 1140			
<212> PRT			
<213> Homo sapiens			
<400> 33			
Met Val Ile Ser Leu Asn Ser Cys Leu Ser Phe Ile Cys Leu Leu Leu			
1	5	10	15
Cys His Trp Ile Gly Thr Ala Ser Pro Leu Asn Leu Glu Asp Pro Asn			
20	25	30	
Val Cys Ser His Trp Glu Ser Tyr Ser Val Thr Val Gln Glu Ser Tyr			
35	40	45	

Pro His Pro Phe Asp Gln Ile Tyr Tyr Thr Ser Cys Thr Asp Ile Leu  
50 55 60

Asn Trp Phe Lys Cys Thr Arg His Arg Val Ser Tyr Arg Thr Ala Tyr  
65 70 75 80

Arg His Gly Glu Lys Thr Met Tyr Arg Arg Lys Ser Gln Cys Cys Pro  
85 90 95

Gly Phe Tyr Glu Ser Gly Glu Met Cys Val Pro His Cys Ala Asp Lys  
100 105 110

Cys Val His Gly Arg Cys Ile Ala Pro Asn Thr Cys Gln Cys Glu Pro  
115 120 125

Gly Trp Gly Gly Thr Asn Cys Ser Ser Ala Cys Asp Gly Asp His Trp  
130 135 140

Gly Pro His Cys Thr Ser Arg Cys Gln Cys Lys Asn Gly Ala Leu Cys  
145 150 155 160

Asn Pro Ile Thr Gly Ala Cys His Cys Ala Ala Gly Phe Arg Gly Trp  
165 170 175

Arg Cys Glu Asp Arg Cys Glu Gln Gly Thr Tyr Gly Asn Asp Cys His  
180 185 190

Gln Arg Cys Gln Cys Gln Asn Gly Ala Thr Cys Asp His Val Thr Gly  
195 200 205

Glu Cys Arg Cys Pro Pro Gly Tyr Thr Gly Ala Phe Cys Glu Asp Leu  
210 215 220

Cys Pro Pro Gly Lys His Gly Pro Gln Cys Glu Gln Arg Cys Pro Cys  
225 230 235 240

Gln Asn Gly Gly Val Cys His His Val Thr Gly Glu Cys Ser Cys Pro  
245 250 255

Ser Gly Trp Met Gly Thr Val Cys Gly Gln Pro Cys Pro Glu Gly Arg  
260 265 270

Phe Gly Lys Asn Cys Ser Gln Glu Cys Gln Cys His Asn Gly Gly Thr  
275 280 285

Cys Asp Ala Ala Thr Gly Gln Cys His Cys Ser Pro Gly Tyr Thr Gly  
290 295 300

Glu Arg Cys Gln Asp Glu Cys Pro Val Gly Thr Tyr Gly Val Leu Cys  
305 310 315 320

Ala Glu Thr Cys Gln Cys Val Asn Gly Gly Lys Cys Tyr His Val Ser  
325 330 335

Gly Ala Cys Leu Cys Glu Ala Gly Phe Ala Gly Glu Arg Cys Glu Ala  
340 345 350

Arg Leu Cys Pro Glu Gly Leu Tyr Gly Ile Lys Cys Asp Lys Arg Cys  
355 360 365

Pro Cys His Leu Glu Asn Thr His Ser Cys His Pro Met Ser Gly Glu  
370 375 380

Cys Ala Cys Lys Pro Gly Trp Ser Gly Leu Tyr Cys Asn Glu Thr Cys  
385 390 395 400

Ser Pro Gly Phe Tyr Gly Glu Ala Cys Gln Gln Ile Cys Ser Cys Gln  
405 410 415

Asn Gly Ala Asp Cys Asp Ser Val Thr Gly Lys Cys Thr Cys Ala Pro  
420 425 430

Gly Phe Lys Gly Ile Asp Cys Ser Thr Pro Cys Pro Leu Gly Thr Tyr  
435 440 445

Gly Ile Asn Cys Ser Ser Arg Cys Gly Cys Lys Asn Asp Ala Val Cys  
450 455 460

Ser Pro Val Asp Gly Ser Cys Thr Cys Lys Ala Gly Trp His Gly Val  
465 470 475 480

Asp Cys Ser Ile Arg Cys Pro Ser Gly Thr Trp Gly Phe Gly Cys Asn  
485 490 495

Leu Thr Cys Gln Cys Leu Asn Gly Gly Ala Cys Asn Thr Leu Asp Gly  
500 505 510

Thr Cys Thr Cys Ala Pro Gly Trp Arg Gly Glu Lys Cys Glu Leu Pro  
515 520 525

Cys Gln Asp Gly Thr Tyr Gly Leu Asn Cys Ala Glu Arg Cys Asp Cys  
530 535 540

Ser His Ala Asp Gly Cys His Pro Thr Thr Gly His Cys Arg Cys Leu  
545 550 555 560

Pro Gly Trp Ser Gly Val His Cys Asp Ser Val Cys Ala Glu Gly Arg  
565 570 575

Trp Gly Pro Asn Cys Ser Leu Pro Cys Tyr Cys Lys Asn Gly Ala Ser  
580 585 590

Cys Ser Pro Asp Asp Gly Ile Cys Glu Cys Ala Pro Gly Phe Arg Gly  
595 600 605

Thr Thr Cys Gln Arg Ile Cys Ser Pro Gly Phe Tyr Gly His Arg Cys  
610 615 620

Ser Gln Thr Cys Pro Gln Cys Val His Ser Ser Gly Pro Cys His His  
625 630 635 640

Ile Thr Gly Leu Cys Asp Cys Leu Pro Gly Phe Thr Gly Ala Leu Cys  
645 650 655

Asn Glu Val Cys Pro Ser Gly Arg Phe Gly Lys Asn Cys Ala Gly Ile  
660 665 670

Cys Thr Cys Thr Asn Asn Gly Thr Cys Asn Pro Ile Asp Arg Ser Cys  
675 680 685

Gln Cys Tyr Pro Gly Trp Ile Gly Ser Asp Cys Ser Gln Pro Cys Pro  
690 695 700

Pro Ala His Trp Gly Pro Asn Cys Ile His Thr Cys Asn Cys His Asn  
705 710 715 720

Gly Ala Phe Cys Ser Ala Tyr Asp Gly Glu Cys Lys Cys Thr Pro Gly  
725 730 735

Trp Thr Gly Leu Tyr Cys Thr Gln Arg Cys Pro Leu Gly Phe Tyr Gly  
740 745 750

Lys Asp Cys Ala Leu Ile Cys Gln Cys Gln Asn Gly Ala Asp Cys Asp  
755 760 765

His Ile Ser Gly Gln Cys Thr Cys Arg Thr Gly Phe Met Gly Arg His  
770 775 780

Cys Glu Gln Lys Cys Pro Ser Gly Thr Tyr Gly Tyr Gly Cys Arg Gln  
785 790 795 800

Ile Cys Asp Cys Leu Asn Asn Ser Thr Cys Asp His Ile Thr Gly Thr  
805 810 815

Cys Tyr Cys Ser Pro Gly Trp Lys Gly Ala Arg Cys Asp Gln Ala Gly  
820 825 830

Val Ile Ile Val Gly Asn Leu Asn Ser Leu Ser Arg Thr Ser Thr Ala  
835 840 845

Leu Pro Ala Asp Ser Tyr Gln Ile Gly Ala Ile Ala Gly Ile Ile Ile  
850 855 860

Leu Val Leu Val Val Leu Phe Leu Leu Ala Leu Phe Ile Ile Tyr Arg  
865 870 875 880

His Lys Gln Lys Gly Lys Glu Ser Ser Met Pro Ala Val Thr Tyr Thr  
885 890 895

Pro Ala Met Arg Val Val Asn Ala Asp Tyr Thr Ile Ser Gly Thr Leu  
900 905 910

Pro His Ser Asn Gly Gly Asn Ala Asn Ser His Tyr Phe Thr Asn Pro  
915 920 925

Ser Tyr His Thr Leu Thr Gln Cys Ala Thr Ser Pro His Val Asn Asn  
930 935 940

Arg Asp Arg Met Thr Val Thr Lys Ser Lys Asn Asn Gln Leu Phe Val  
945 950 955 960

Asn Leu Lys Asn Val Asn Pro Gly Lys Arg Gly Pro Val Gly Asp Cys  
965 970 975

Thr Gly Thr Leu Pro Ala Asp Trp Lys His Gly Gly Tyr Leu Asn Glu  
980 985 990

Leu Gly Ala Phe Gly Leu Asp Arg Ser Tyr Met Gly Lys Ser Leu Lys  
995 1000 1005

Asp Leu Gly Lys Asn Ser Glu Tyr Asn Ser Ser Asn Cys Ser Leu Ser  
1010 1015 1020

Ser Ser Glu Asn Pro Tyr Ala Thr Ile Lys Asp Pro Pro Val Leu Ile  
1025 1030 1035 1040

Pro Lys Ser Ser Glu Cys Gly Tyr Val Glu Met Lys Ser Pro Ala Arg  
1045 1050 1055

Arg Asp Ser Pro Tyr Ala Glu Ile Asn Asn Ser Thr Ser Ala Asn Arg  
1060 1065 1070

Asn Val Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Gly Val Phe  
1075 1080 1085

Ser Asn Asn Gly Arg Leu Ser Gln Asp Pro Tyr Asp Leu Pro Lys Asn  
1090 1095 1100

Ser His Ile Pro Cys His Tyr Asp Leu Leu Pro Val Arg Asp Ser Ser  
1105 1110 1115 1120

Ser Ser Pro Lys Gln Glu Asp Ser Gly Gly Ser Ser Ser Asn Ser Ser  
1125 1130 1135

Ser Ser Ser Glu  
1140

<210> 34

<211> 969

<212> PRT

<213> Homo sapiens

<400> 34

Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser  
1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys  
20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly  
35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly  
50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn  
65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg  
85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu  
100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu  
115 120 125

Cys Leu Cys Ala Pro Gly Tyr Thr Gly Val Tyr Cys Glu Glu Leu Cys  
130 135 140

Pro Pro Gly Ser His Gly Ala His Cys Glu Leu Arg Cys Pro Cys Gln  
 145 150 155 160  
  
 Asn Gly Gly Thr Cys His His Ile Thr Gly Glu Cys Ala Cys Pro Pro  
 165 170 175  
  
 Gly Trp Thr Gly Ala Val Cys Ala Gln Pro Cys Pro Pro Gly Thr Phe  
 180 185 190  
  
 Gly Gln Asn Cys Ser Gln Asp Cys Pro Cys His His Gly Gly Gln Cys  
 195 200 205  
  
 Asp His Val Thr Gly Gln Cys His Cys Thr Ala Gly Tyr Met Gly Asp  
 210 215 220  
  
 Arg Cys Gln Glu Glu Cys Pro Phe Gly Ser Phe Gly Phe Gln Cys Ser  
 225 230 235 240  
  
 Gln Arg Cys Asp Cys His Asn Gly Gly Gln Cys Ser Pro Thr Thr Gly  
 245 250 255  
  
 Ala Cys Glu Cys Glu Pro Gly Tyr Lys Gly Pro Arg Cys Gln Glu Arg  
 260 265 270  
  
 Leu Cys Pro Glu Gly Leu His Gly Pro Gly Cys Thr Leu Pro Cys Pro  
 275 280 285  
  
 Cys Asp Ala Asp Asn Thr Ile Ser Cys His Pro Val Thr Gly Ala Cys  
 290 295 300  
  
 Thr Cys Gln Pro Gly Trp Ser Gly His His Cys Asn Glu Ser Cys Pro  
 305 310 315 320  
  
 Val Gly Tyr Tyr Gly Asp Gly Cys Gln Leu Pro Cys Thr Cys Gln Asn  
 325 330 335  
  
 Gly Ala Asp Cys His Ser Ile Thr Gly Gly Cys Thr Cys Ala Pro Gly  
 340 345 350  
  
 Phe Met Gly Glu Val Cys Ala Val Ser Cys Ala Ala Gly Thr Tyr Gly  
 355 360 365  
  
 Pro Asn Cys Ser Ser Ile Cys Ser Cys Asn Asn Gly Gly Thr Cys Ser  
 370 375 380  
  
 Pro Val Asp Gly Ser Cys Thr Cys Lys Glu Gly Trp Gln Gly Leu Asp  
 385 390 395 400

Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu  
405 410 415

Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser  
420 425 430

Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys  
435 440 445

Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser  
450 455 460

His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala  
465 470 475 480

Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp  
485 490 495

Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys  
500 505 510

Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro  
515 520 525

Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala  
530 535 540

Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile  
545 550 555 560

Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn  
565 570 575

Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys  
580 585 590

Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln  
595 600 605

Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro  
610 615 620

Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly  
625 630 635 640

Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp  
645 650 655

Thr Gly Leu Phe Cys Thr Gln Arg Cys Pro Ala Ala Phe Phe Gly Lys  
 660 665 670  
  
 Asp Cys Gly Arg Val Cys Gln Cys Gln Asn Gly Ala Ser Cys Asp His  
 675 680 685  
  
 Ile Ser Gly Lys Cys Thr Cys Arg Thr Gly Phe Thr Gly Gln His Cys  
 690 695 700  
  
 Glu Gln Arg Cys Ala Pro Gly Thr Phe Gly Tyr Gly Cys Gln Gln Leu  
 705 710 715 720  
  
 Cys Glu Cys Met Asn Asn Ser Thr Cys Asp His Val Thr Gly Thr Cys  
 725 730 735  
  
 Tyr Cys Ser Pro Gly Phe Lys Gly Ile Arg Cys Asp Gln Ala Ala Leu  
 740 745 750  
  
 Met Met Glu Glu Leu Asn Pro Tyr Thr Lys Ile Ser Pro Ala Leu Gly  
 755 760 765  
  
 Ala Glu Arg His Ser Val Gly Ala Val Thr Gly Ile Met Leu Leu Leu  
 770 775 780  
  
 Phe Phe Ile Val Val Leu Leu Gly Leu Phe Ala Trp His Arg Arg Arg  
 785 790 795 800  
  
 Gln Lys Glu Lys Gly Arg Asp Leu Ala Pro Arg Val Ser Tyr Thr Pro  
 805 810 815  
  
 Ala Met Arg Met Thr Ser Thr Asp Tyr Ser Leu Ser Gly Ala Cys Gly  
 820 825 830  
  
 Met Asp Arg Arg Gln Asn Thr Tyr Ile Met Asp Lys Gly Phe Lys Asp  
 835 840 845  
  
 Tyr Met Lys Glu Ser Val Cys Ser Ser Ser Thr Cys Ser Leu Asn Ser  
 850 855 860  
  
 Ser Glu Asn Pro Tyr Ala Thr Ile Lys Asp Pro Pro Ile Leu Thr Cys  
 865 870 875 880  
  
 Lys Leu Pro Glu Ser Ser Tyr Val Glu Met Lys Ser Pro Val His Met  
 885 890 895  
  
 Gly Ser Pro Tyr Thr Asp Val Pro Ser Leu Ser Thr Ser Asn Lys Asn  
 900 905 910

Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly  
915 920 925

His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp Leu Pro Arg Asn Ser  
930 935 940

His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala  
945 950 955 960

Asn Gly Pro Ser Gln Asp Lys Gln Ser  
965

<210> 35

<211> 969

<212> PRT

<213> Homo sapiens

<400> 35

Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser  
1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys  
20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly  
35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly  
50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn  
65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg  
85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu  
100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu  
115 120 125

Cys Leu Cys Ala Pro Gly Tyr Thr Gly Val Tyr Cys Glu Glu Leu Cys  
130 135 140

Pro Pro Gly Ser His Gly Ala His Cys Glu Leu Arg Cys Pro Cys Gln

145 150 155 160  
Asn Gly Gly Thr Cys His His Ile Thr Gly Glu Cys Ala Cys Pro Pro  
165 170 175  
Gly Trp Thr Gly Ala Val Cys Ala Gln Pro Cys Pro Pro Gly Thr Phe  
180 185 190  
Gly Gln Asn Cys Ser Gln Asp Cys Pro Cys His His Gly Gly Gln Cys  
195 200 205  
Asp His Val Thr Gly Gln Cys His Cys Thr Ala Gly Tyr Met Gly Asp  
210 215 220  
Arg Cys Gln Glu Glu Cys Pro Phe Gly Ser Phe Gly Phe Gln Cys Ser  
225 230 235 240  
Gln His Cys Asp Cys His Asn Gly Gly Gln Cys Ser Pro Thr Thr Gly  
245 250 255  
Ala Cys Glu Cys Glu Pro Gly Tyr Lys Gly Pro Arg Cys Gln Glu Arg  
260 265 270  
Leu Cys Pro Glu Gly Leu His Gly Pro Gly Cys Thr Leu Pro Cys Pro  
275 280 285  
Cys Asp Ala Asp Asn Thr Ile Ser Cys His Pro Val Thr Gly Ala Cys  
290 295 300  
Thr Cys Gln Pro Gly Trp Ser Gly His His Cys Asn Glu Ser Cys Pro  
305 310 315 320  
Val Gly Tyr Tyr Gly Asp Gly Cys Gln Leu Pro Cys Thr Cys Gln Asn  
325 330 335  
Gly Ala Asp Cys His Ser Ile Thr Gly Gly Cys Thr Cys Ala Pro Gly  
340 345 350  
Phe Met Gly Glu Val Cys Ala Val Ser Cys Ala Ala Gly Thr Tyr Gly  
355 360 365  
Pro Asn Cys Ser Ser Ile Cys Ser Cys Asn Asn Gly Gly Thr Cys Ser  
370 375 380  
Pro Val Asp Gly Ser Cys Thr Cys Lys Glu Gly Trp Gln Gly Leu Asp  
385 390 395 400  
Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu

405 410 415  
Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser  
420 425 430  
Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys  
435 440 445  
Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser  
450 455 460  
His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala  
465 470 475 480  
Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp  
485 490 495  
Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys  
500 505 510  
Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro  
515 520 525  
Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala  
530 535 540  
Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile  
545 550 555 560  
Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn  
565 570 575  
Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys  
580 585 590  
Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln  
595 600 605  
Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro  
610 615 620  
Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly  
625 630 635 640  
Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp  
645 650 655  
Thr Gly Leu Phe Cys Thr Gln Arg Cys Pro Ala Ala Phe Phe Gly Lys

660	665	670
Asp Cys Gly Arg Val Cys Gln Cys Gln Asn Gly Ala Ser Cys Asp His		
675	680	685
Ile Ser Gly Lys Cys Thr Cys Arg Thr Gly Phe Thr Gly Gln His Cys		
690	695	700
Glu Gln Arg Cys Ala Pro Gly Thr Phe Gly Tyr Gly Cys Gln Gln Leu		
705	710	715
720		
Cys Glu Cys Met Asn Asn Ser Thr Cys Asp His Val Thr Gly Thr Cys		
725	730	735
Tyr Cys Ser Pro Gly Phe Lys Gly Ile Arg Cys Asp Gln Ala Ala Leu		
740	745	750
Met Met Glu Glu Leu Asn Pro Tyr Thr Lys Ile Ser Pro Ala Leu Gly		
755	760	765
Ala Glu Arg His Ser Val Gly Ala Val Thr Gly Ile Met Leu Leu Leu		
770	775	780
Phe Leu Ile Val Val Leu Leu Gly Leu Phe Ala Trp His Arg Arg Arg		
785	790	795
800		
Gln Lys Glu Lys Gly Arg Asp Leu Ala Pro Arg Val Ser Tyr Thr Pro		
805	810	815
Ala Met Arg Met Thr Ser Thr Asp Tyr Ser Leu Ser Gly Ala Cys Gly		
820	825	830
Met Asp Arg Arg Gln Asn Thr Tyr Ile Met Asp Lys Gly Phe Lys Xaa		
835	840	845
Xaa		
850	855	860
Xaa		
865	870	875
880		
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Met Lys Ser Pro Val His Met		
885	890	895
Gly Ser Pro Tyr Thr Asp Val Pro Ser Leu Ser Thr Ser Asn Lys Asn		
900	905	910
Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly		

915

920

925

His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp Leu Pro Arg Asn Ser  
930 935 940

His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala  
945 950 955 960

Asn Gly Pro Ser Gln Asp Lys Gln Ser  
965

<210> 36

<211> 1234

<212> PRT

<213> Homo sapiens

<400> 36

Met Leu Ala Ser Pro Ala Thr Glu Thr Thr Val Leu Met Ser Gln Thr  
1 5 10 15

Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu Gly Thr Ala Gly  
20 25 30

Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg Arg Phe Ser Gly  
35 40 45

Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser Arg Arg Ser Ser  
50 55 60

Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro Ala Ser Pro Ala  
65 70 75 80

Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro Gly Pro Ala Arg  
85 90 95

Ser Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly Thr Trp Thr Glu Gly  
100 105 110

Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg Pro Glu Leu Pro Asp  
115 120 125

Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu Arg Val Pro Glu Ala  
130 135 140

Val Ala Leu Glu Arg Arg Glu Gln Glu Glu Lys Glu Asp Met Glu  
145 150 155 160

Thr Gln Ala Val Ala Thr Ser Pro Asp Gly Arg Tyr Leu Lys Phe Asp  
165 170 175

Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Arg Gly Leu Asp Thr  
180 185 190

Asp Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Thr Arg Lys Leu  
195 200 205

Ser Arg Ala Glu Arg Gln Arg Phe Ser Glu Glu Val Glu Met Leu Lys  
210 215 220

Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Lys Ser  
225 230 235 240

Val Leu Arg Gly Gln Val Cys Ile Val Leu Val Thr Glu Leu Met Thr  
245 250 255

Ser Gly Thr Leu Lys Thr Leu Arg Arg Phe Arg Glu Met Lys Pro Arg  
260 265 270

Val Leu Gln Arg Trp Ser Arg Gln Ile Leu Arg Gly Leu His Phe Leu  
275 280 285

His Ser Arg Val Pro Pro Ile Leu His Arg Asp Leu Lys Cys Asp Asn  
290 295 300

Val Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp Leu Gly  
305 310 315 320

Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile Gly Thr  
325 330 335

Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp Glu Ala  
340 345 350

Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala Thr Ser  
355 360 365

Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Lys Val Thr  
370 375 380

Ser Gly Arg Lys Pro Asn Ser Phe His Lys Val Lys Ile Pro Glu Val  
385 390 395 400

Lys Glu Ile Ile Glu Gly Cys Ile Arg Thr Asp Lys Asn Glu Arg Phe  
405 410 415

Thr Ile Gln Asp Leu Leu Ala His Ala Phe Phe Arg Glu Glu Arg Gly  
420 425 430

Val His Val Glu Leu Ala Glu Glu Asp Asp Gly Gly Glu Lys Pro Gly Leu  
435 440 445

Lys Leu Trp Leu Arg Met Glu Asp Ala Arg Arg Gly Gly Arg Pro Arg  
450 455 460

Asp Asn Gln Ala Ile Glu Phe Leu Phe Gln Leu Gly Arg Ala Ala Glu  
465 470 475 480

Glu Val Ala Gln Glu Met Val Ala Leu Gly Leu Val Cys Glu Ala Asp  
485 490 495

Tyr Gln Pro Val Ala Arg Ala Val Arg Glu Arg Val Ala Ala Ile Gln  
500 505 510

Arg Lys Arg Lys Leu Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro  
515 520 525

Glu Pro Gly Pro Pro Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro  
530 535 540

Ser Val Phe Pro Pro Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln  
545 550 555 560

Pro Phe Leu Phe Arg His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys  
565 570 575

Glu Thr Asp Gly Tyr Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp  
580 585 590

Pro Ala Leu Gln Pro Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser  
595 600 605

His Leu Cys Leu Pro Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly  
610 615 620

Pro Gly Ser Asp Phe Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala  
625 630 635 640

Ser Gly Leu Ser Asp Val Gly Glu Gly Met Gly Gln Met Arg Arg Pro  
645 650 655

Pro Gly Arg Asn Leu Arg Arg Arg Pro Arg Ser Arg Leu Arg Val Thr  
660 665 670

Ser Val Ser Asp Gln Asn Asp Arg Val Val Glu Cys Gln Leu Gln Thr  
675 680 685

His Asn Ser Lys Met Val Thr Phe Arg Phe Asp Leu Asp Gly Asp Ser  
690 695 700

Pro Glu Glu Ile Ala Ala Ala Met Val Tyr Asn Glu Phe Ile Leu Pro  
705 710 715 720

Ser Glu Arg Asp Gly Phe Leu Arg Arg Ile Arg Glu Ile Ile Gln Arg  
725 730 735

Val Glu Thr Leu Leu Lys Arg Asp Thr Gly Pro Met Glu Ala Ala Glu  
740 745 750

Asp Thr Leu Ser Pro Gln Glu Glu Pro Ala Pro Leu Pro Ala Leu Pro  
755 760 765

Val Pro Leu Pro Asp Pro Ser Asn Glu Glu Leu Gln Ser Ser Thr Ser  
770 775 780

Leu Glu His Arg Ser Trp Thr Ala Phe Ser Thr Ser Ser Ser Pro  
785 790 795 800

Gly Thr Pro Leu Ser Pro Gly Asn Pro Phe Ser Pro Gly Thr Pro Ile  
805 810 815

Ser Pro Gly Pro Ile Phe Pro Ile Thr Ser Pro Pro Cys His Pro Ser  
820 825 830

Pro Ser Pro Phe Ser Pro Ile Ser Ser Gln Val Ser Ser Asn Pro Ser  
835 840 845

Pro His Pro Thr Ser Ser Pro Leu Pro Phe Ser Ser Ser Thr Pro Glu  
850 855 860

Phe Pro Val Pro Leu Ser Gln Cys Pro Trp Ser Ser Leu Pro Thr Thr  
865 870 875 880

Ser Pro Pro Thr Phe Ser Pro Thr Cys Ser Gln Val Thr Leu Ser Ser  
885 890 895

Pro Phe Phe Pro Pro Cys Pro Ser Thr Ser Ser Phe Pro Ser Thr Thr  
900 905 910

Ala Ala Pro Leu Leu Ser Leu Ala Ser Ala Phe Ser Leu Ala Val Met  
915 920 925

Thr Val Ala Gln Ser Leu Ser Pro Ser Pro Gly Leu Leu Ser Gln Ser  
930 935 940

Pro Pro Ala Pro Pro Ser Pro Leu Pro Ser Leu Pro Leu Pro Pro Pro  
945 950 955 960

Val Ala Pro Gly Gly Gln Glu Ser Pro Ser Pro His Thr Ala Glu Val  
965 970 975

Glu Ser Glu Ala Ser Pro Pro Ala Arg Pro Leu Pro Gly Glu Ala  
980 985 990

Arg Leu Ala Pro Ile Ser Glu Glu Gly Lys Pro Gln Leu Val Gly Arg  
995 1000 1005

Phe Gln Val Thr Ser Ser Lys Glu Pro Ala Glu Pro Leu Pro Leu Gln  
1010 1015 1020

Pro Thr Ser Pro Thr Leu Ser Gly Ser Pro Lys Pro Ser Thr Pro Gln  
1025 1030 1035 1040

Leu Thr Ser Glu Ser Ser Asp Thr Glu Asp Ser Ala Gly Gly Pro  
1045 1050 1055

Glu Thr Arg Glu Ala Leu Ala Glu Ser Asp Arg Ala Ala Glu Gly Leu  
1060 1065 1070

Gly Ala Gly Val Glu Glu Glu Gly Asp Asp Gly Lys Glu Pro Gln Val  
1075 1080 1085

Gly Gly Ser Pro Gln Pro Leu Ser His Pro Ser Pro Val Trp Met Asn  
1090 1095 1100

Tyr Ser Tyr Ser Ser Leu Cys Leu Ser Ser Glu Glu Ser Glu Ser Ser  
1105 1110 1115 1120

Gly Glu Glu Glu Phe Trp Ala Glu Leu Gln Ser Leu Arg Gln Lys His  
1125 1130 1135

Leu Ser Glu Val Glu Thr Leu Gln Thr Leu Gln Lys Lys Glu Ile Glu  
1140 1145 1150

Asp Leu Tyr Ser Arg Leu Gly Lys Gln Pro Pro Pro Gly Ile Val Ala  
1155 1160 1165

Pro Ala Ala Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser  
1170 1175 1180

Phe Pro Thr Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly  
1185 1190 1195 1200

Pro Gly Ile Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser  
1205 1210 1215

Gln Glu Gln Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly  
1220 1225 1230

Arg Met

<210> 37

<211> 1231

<212> PRT

<213> Homo sapiens

<400> 37

Met Ser Gln Thr Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu  
1 5 10 15

Gly Thr Ala Gly Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg  
20 25 30

Arg Phe Ser Gly Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser  
35 40 45

Arg Arg Ser Ser Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro  
50 55 60

Ala Ser Pro Ala Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro  
65 70 75 80

Gly Pro Ala Arg Ser Pro Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly  
85 90 95

Thr Trp Thr Glu Gly Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg  
100 105 110

Pro Glu Leu Pro Asp Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu  
115 120 125

Arg Val Pro Glu Ala Val Ala Leu Glu Arg Arg Glu Gln Glu Glu  
130 135 140

Lys Glu Asp Met Glu Thr Gln Ala Val Ala Thr Ser Pro Asp Gly Arg  
145 150 155 160

Tyr Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val  
165 170 175

Tyr Arg Gly Leu Asp Thr Asp Thr Thr Val Glu Val Ala Trp Cys Glu  
180 185 190

Leu Gln Thr Arg Lys Leu Ser Arg Ala Glu Arg Gln Arg Phe Ser Glu  
195 200 205

Glu Val Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe  
210 215 220

Tyr Asp Ser Trp Lys Ser Val Leu Arg Gly Gln Val Cys Ile Val Leu  
225 230 235 240

Val Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Arg Arg  
245 250 255

Phe Arg Glu Met Lys Pro Arg Val Leu Gln Arg Trp Ser Arg Gln Ile  
260 265 270

Leu Arg Gly Leu His Phe Leu His Ser Arg Val Pro Pro Ile Leu His  
275 280 285

Arg Asp Leu Lys Cys Asp Asn Val Phe Ile Thr Gly Pro Thr Gly Ser  
290 295 300

Val Lys Ile Gly Asp Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe  
305 310 315 320

Ala Lys Ser Val Ile Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr  
325 330 335

Glu Glu Lys Tyr Asp Glu Ala Val Asp Val Tyr Ala Phe Gly Met Cys  
340 345 350

Met Leu Glu Met Ala Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn  
355 360 365

Ala Ala Gln Ile Tyr Arg Lys Val Thr Ser Gly Arg Lys Pro Asn Ser  
370 375 380

Phe His Lys Val Lys Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys  
385 390 395 400

Ile Arg Thr Asp Lys Asn Glu Arg Phe Thr Ile Gln Asp Leu Leu Ala  
405 410 415

His Ala Phe Phe Arg Glu Glu Arg Gly Val His Val Glu Leu Ala Glu  
420 425 430

Glu Asp Asp Gly Glu Lys Pro Gly Leu Lys Leu Trp Leu Arg Met Glu  
435 440 445

Asp Ala Arg Arg Gly Gly Arg Pro Arg Asp Asn Gln Ala Ile Glu Phe  
450 455 460

Leu Phe Gln Leu Gly Arg Asp Ala Ala Glu Glu Val Ala Gln Glu Met  
465 470 475 480

Val Ala Leu Gly Leu Val Cys Glu Ala Asp Tyr Gln Pro Val Ala Arg  
485 490 495

Ala Val Arg Glu Arg Val Ala Ala Ile Gln Arg Lys Arg Glu Lys Leu  
500 505 510

Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro Glu Pro Gly Pro Pro  
515 520 525

Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro Ser Val Phe Pro Pro  
530 535 540

Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Pro Phe Leu Phe Arg  
545 550 555 560

His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys Glu Thr Asp Gly Tyr  
565 570 575

Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp Pro Ala Gln Pro  
580 585 590

Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser His Leu Cys Leu Pro  
595 600 605

Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly Pro Gly Ser Asp Phe  
610 615 620

Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala Ser Gly Leu Ser Asp  
625 630 635 640

Val Gly Glu Gly Met Gly Gln Met Arg Arg Pro Pro Gly Arg Asn Leu  
645 650 655

Arg Arg Arg Pro Arg Ser Arg Leu Arg Val Thr Ser Val Ser Asp Gln  
660 665 670

Asn Asp Arg Val Val Glu Cys Gln Leu Gln Thr His Asn Ser Lys Met  
675 680 685

Val Thr Phe Arg Phe Asp Leu Asp Gly Asp Ser Pro Glu Glu Ile Ala  
690 695 700

Ala Ala Met Val Tyr Asn Glu Phe Ile Leu Pro Ser Glu Arg Asp Gly  
705 710 715 720

Phe Leu Arg Arg Ile Arg Glu Ile Ile Gln Arg Val Glu Thr Leu Leu  
725 730 735

Lys Arg Asp Thr Gly Pro Met Glu Ala Ala Glu Asp Thr Leu Ser Pro  
740 745 750

Gln Glu Glu Pro Ala Pro Leu Pro Ala Leu Pro Val Pro Leu Pro Asp  
755 760 765

Pro Ser Asn Glu Glu Leu Gln Ser Ser Thr Ser Leu Glu His Arg Ser  
770 775 780

Trp Thr Ala Phe Ser Thr Ser Ser Ser Pro Gly Thr Pro Leu Ser  
785 790 795 800

Pro Gly Asn Pro Phe Ser Pro Gly Thr Pro Ile Ser Pro Gly Pro Ile  
805 810 815

Phe Pro Ile Thr Ser Pro Pro Cys His Pro Ser Pro Ser Pro Phe Ser  
820 825 830

Pro Ile Ser Ser Gln Val Ser Ser Asn Pro Ser Pro His Pro Thr Ser  
835 840 845

Ser Pro Leu Pro Phe Ser Ser Ser Thr Pro Glu Phe Pro Val Pro Leu  
850 855 860

Ser Gln Cys Pro Trp Ser Ser Leu Pro Thr Thr Ser Pro Pro Thr Phe  
865 870 875 880

Ser Pro Thr Cys Ser Gln Val Thr Leu Ser Ser Pro Phe Phe Pro Pro  
885 890 895

Cys Pro Ser Thr Ser Ser Phe Pro Ser Thr Thr Ala Ala Pro Leu Leu  
900 905 910

Ser Leu Ala Ser Ala Phe Ser Leu Ala Val Met Thr Val Ala Gln Ser  
915 920 925

Leu Leu Ser Pro Ser Pro Gly Leu Leu Ser Gln Ser Pro Pro Ala Pro  
930 935 940

Pro Ser Pro Leu Pro Ser Leu Pro Leu Pro Pro Pro Val Ala Pro Gly  
945 950 955 960

Gly Gln Glu Ser Pro Ser Pro His Thr Ala Glu Val Glu Ser Glu Ala  
965 970 975

Ser Pro Pro Pro Ala Arg Pro Leu Pro Gly Glu Ala Arg Leu Ala Pro  
980 985 990

Ile Ser Glu Glu Gly Lys Pro Gln Leu Val Gly Arg Phe Gln Val Thr  
995 1000 1005

Ser Ser Lys Glu Pro Ala Glu Pro Leu Pro Leu Gln Pro Thr Ser Pro  
1010 1015 1020

Thr Leu Ser Gly Ser Pro Lys Pro Ser Thr Pro Gln Leu Thr Ser Glu  
1025 1030 1035 1040

Ser Ser Asp Thr Glu Asp Ser Ala Gly Gly Pro Glu Thr Arg Glu  
1045 1050 1055

Ala Leu Ala Glu Ser Asp Arg Ala Ala Glu Gly Leu Gly Ala Gly Val  
1060 1065 1070

Glu Glu Glu Gly Asp Asp Gly Lys Glu Pro Gln Val Gly Gly Ser Pro  
1075 1080 1085

Gln Pro Leu Ser His Pro Ser Pro Val Trp Met Asn Tyr Ser Tyr Ser  
1090 1095 1100

Ser Leu Cys Leu Ser Ser Glu Glu Ser Ser Gly Glu Asp Glu  
1105 1110 1115 1120

Glu Phe Trp Ala Glu Leu Gln Ser Leu Arg Gln Lys His Leu Ser Glu  
1125 1130 1135

Val Glu Thr Leu Gln Thr Leu Gln Lys Lys Glu Ile Glu Asp Leu Tyr  
1140 1145 1150

Ser Arg Leu Gly Lys Gln Pro Pro Pro Gly Ile Val Ala Pro Ala Ala  
1155 1160 1165

Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser Phe Pro Thr  
1170 1175 1180

Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly Pro Gly Ile  
1185 1190 1195 1200

Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser Gln Glu Gln  
1205 1210 1215

Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly Arg Met  
1220 1225 1230

<210> 38

<211> 670

<212> PRT

<213> Homo sapiens

<400> 38

Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu  
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Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp  
20 25 30

Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr  
35 40 45

Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp  
50 55 60

Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Glu His Arg Phe Phe  
65 70 75 80

Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro  
85 90 95

Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro  
100 105 110

Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr  
115 120 125

Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly  
130 135 140

Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr  
145 150 155 160

Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu

165	170	175
Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Ser Ala Lys Glu		
180	185	190
Pro Gln Glu Glu Arg Ser Gln Gln Asp Asp Ile Glu Glu Leu Glu		
195	200	205
Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp		
210	215	220
Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp		
225	230	235
240		
Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys		
245	250	255
Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu		
260	265	270
Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu		
275	280	285
Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met		
290	295	300
Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys		
305	310	315
320		
Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln		
325	330	335
Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys		
340	345	350
Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp		
355	360	365
Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile		
370	375	380
Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp		
385	390	395
400		
Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala		
405	410	415
Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr		

420	425	430
Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala		
435	440	445
Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys		
450	455	460
Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln		
465	470	475
Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu		
485	490	495
Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu		
500	505	510
Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu		
515	520	525
Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly		
530	535	540
Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp		
545	550	555
Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg		
565	570	575
Glu Glu Gln Glu Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln		
580	585	590
Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser		
595	600	605
Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser		
610	615	620
Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln Leu		
625	630	635
Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val Asp		
645	650	655
Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Gly Gly		
660	665	670

<210> 39  
<211> 2126  
<212> PRT  
<213> Rattus norvegicus

<400> 39  
Met Ser Asp Gly Thr Ala Glu Lys Gln Ser Gly Thr Pro Gly Phe Leu  
1 5 10 15  
Ser Pro Pro Ala Pro Val Pro Lys Asn Gly Ser Ser Ser Asp Ser Ser  
20 25 30  
Val Gly Glu Lys Leu Gly Ala Ala Val Ala Asp Ser Gly Ile Gly Arg  
35 40 45  
Thr Glu Glu Tyr Arg Arg Arg His Thr Met Asp Lys Asp Ser Arg  
50 55 60  
Gly Ala Ala Ala Thr Thr Pro Thr Glu His Arg Phe Phe Arg Arg  
65 70 75 80  
Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro Gly Leu  
85 90 95  
Pro Leu Ser Ile Pro Gln Pro Ser Val Pro Ala Val Val Pro Gln Ser  
100 105 110  
Ala Pro Pro Glu Pro His Arg Glu Glu Thr Leu Thr Ala Thr Val Ala  
115 120 125  
Ser Gln Val Ser Gln Gln Pro Ser Ala Ala Ser Pro Gly Glu Gln  
130 135 140  
Ala Val Val Gly Ser Ala Thr Ala Thr Val Pro Ser Ser Thr Ser Lys  
145 150 155 160  
Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu Glu Pro  
165 170 175  
Pro Pro Ser Arg Ser Gly Ser Gly Gly Ala Ser Ala Lys Glu  
180 185 190  
Pro Gln Glu Glu Arg Asn Gln Gln Asp Asp Ile Glu Glu Leu Glu  
195 200 205  
Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp  
210 215 220

Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp  
225 230 235 240

Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys  
245 250 255

Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu  
260 265 270

Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu  
275 280 285

Ser Thr Val Lys Gly Lys Cys Ile Val Leu Val Thr Glu Leu Met  
290 295 300

Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys  
305 310 315 320

Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln  
325 330 335

Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys  
340 345 350

Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp  
355 360 365

Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile  
370 375 380

Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp  
385 390 395 400

Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala  
405 410 415

Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr  
420 425 430

Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala  
435 440 445

Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys  
450 455 460

Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln  
465 470 475 480

Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu  
485 490 495

Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu  
500 505 510

Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu  
515 520 525

Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly  
530 535 540

Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp  
545 550 555 560

Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg  
565 570 575

Glu Glu Gln Glu Lys Arg Lys Gln Glu Glu Ser Ser Phe Lys Gln Gln  
580 585 590

Asn Glu Gln Gln Ala Ser Val Ser Gln Ala Gly Ile Gln Pro Leu Ser  
595 600 605

Val Ala Ser Thr Gly Ile Pro Thr Ala Pro Thr Thr Ser Ala Ser Val  
610 615 620

Ser Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln  
625 630 635 640

Leu Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val  
645 650 655

Asp Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser  
660 665 670

Gln Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Ile  
675 680 685

Gly Thr Ala Pro Gly His Thr Val Ser Ser Ile Gln Ala Gln Ser Gln  
690 695 700

Pro His Gly Val Tyr Pro Pro Ser Ser Met Ala Gln Gly Gln Asn Gln  
705 710 715 720

Gly Gln Pro Ser Ser Ser Leu Ala Gly Val Leu Ser Ser Gln Pro Val  
725 730 735

Gln His Pro Gln Gln Gln Gly Ile Gln Pro Thr Val Pro Pro Gln Gln  
740 745 750

Ala Val Gln Tyr Ser Leu Pro Gln Ala Ala Ser Ser Ser Glu Gly Thr  
755 760 765

Val Gln Pro Val Ser Gln Pro Gln Val Ser Ala Gly Thr Gln Ser Ser  
770 775 780

Thr Gln Gly Val Ser Gln Ala Ala Pro Pro Glu Gln Thr Pro Ile Thr  
785 790 795 800

Gln Ser Gln Pro Thr Gln Pro Val Pro Leu Val Ser Ser Val Asp Ser  
805 810 815

Ala His Ser Asp Val Ala Ser Gly Met Ser Asp Gly Asn Glu Asn Ala  
820 825 830

Pro Ser Ser Ser Gly Arg His Glu Gly Arg Thr Thr Lys Arg His Tyr  
835 840 845

Arg Lys Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro  
850 855 860

Lys Leu Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu  
865 870 875 880

Cys Gln Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp  
885 890 895

Leu Asp Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn  
900 905 910

Asp Phe Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Ala Gln Val Arg  
915 920 925

Glu Ile Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val  
930 935 940

Glu Pro Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp  
945 950 955 960

Tyr Gly Phe Pro Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro  
965 970 975

Ile Ala Val Ser Ser Met Pro Gln Gln Ile Gly Val Pro Thr Ser Ser  
980 985 990

Leu Thr Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro  
995 1000 1005

Val Pro Glu Ser Arg Leu Arg Glu Ser Lys Ile Phe Thr Ser Glu Ile  
1010 1015 1020

Pro Asp Pro Val Ala Ala Ser Thr Ser Gln Gly Pro Gly Met Asn Leu  
1025 1030 1035 1040

Ser His Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu  
1045 1050 1055

Lys His Gly Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe  
1060 1065 1070

Asn His Pro Gly Pro Thr Phe Ser Pro Phe Leu Thr Ser Ile Ala Gly  
1075 1080 1085

Val Gln Thr Val Ala Ala Ser Thr Pro Ser Val Ser Val Pro Ile Thr  
1090 1095 1100

Ser Ser Pro Leu Asn Asp Ile Ser Thr Ser Val Met Gln Ser Glu Gly  
1105 1110 1115 1120

Ala Leu Pro Thr Asp Lys Gly Ile Gly Gly Val Thr Thr Ser Thr Gly  
1125 1130 1135

Val Val Ala Ser Gly Gly Leu Thr Thr Leu Ser Val Ser Glu Thr Pro  
1140 1145 1150

Thr Leu Ser Ser Ala Val Ser Ser Ser Thr Ala Pro Ala Val Val Thr  
1155 1160 1165

Val Ser Thr Thr Ser Gln Pro Val Gln Ala Phe Thr Ser Gly Ser Ile  
1170 1175 1180

Ala Ser Ser Thr Gly Ser Phe Pro Ser Gly Thr Phe Ser Thr Thr Thr  
1185 1190 1195 1200

Gly Thr Thr Val Ser Ser Val Ala Val Pro Asn Ala Lys Pro Pro Thr  
1205 1210 1215

Val Leu Leu Gln Gln Val Ala Gly Asn Thr Ala Gly Val Ala Ile Val  
1220 1225 1230

Thr Ser Val Ser Thr Thr Pro Phe Pro Ala Met Ala Ser Gln Pro  
1235 1240 1245

Ser Leu Pro Leu Gly Ser Ser Thr Ser Ala Pro Thr Leu Ala Glu Thr  
1250 1255 1260

Val Val Val Ser Ala His Ser Leu Asp Lys Ala Ser His Ser Ser Thr  
1265 1270 1275 1280

Ala Gly Leu Gly Leu Ser Phe Cys Ala Pro Ser Ser Ser Ser Ser  
1285 1290 1295

Gly Thr Ala Val Ser Ser Ser Val Ser Gln Pro Gly Ile Val His Pro  
1300 1305 1310

Leu Val Ile Ser Ser Ala Ile Ala Ser Thr Pro Val Leu Pro Gln Pro  
1315 1320 1325

Ala Val Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Asn Ile Pro  
1330 1335 1340

Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu  
1345 1350 1355 1360

Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr  
1365 1370 1375

His Cys Pro Glu Met Asp Ala Asp Thr Gln Ser Lys Ala Pro Gly Ile  
1380 1385 1390

Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu  
1395 1400 1405

His Ser Ser Ser Gly Thr Gln His Ala Ser Val Ser Leu Glu Thr Pro  
1410 1415 1420

Leu Val Val Glu Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val Ala  
1425 1430 1435 1440

Pro Ser Lys Leu Met Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr  
1445 1450 1455

Asn Leu Pro Leu Gly Thr Ala Gly Met Pro Val Met Pro Val Gly Thr  
1460 1465 1470

Pro Gly Gln Val Ser Thr Pro Gly Thr His Ala Ser Ala Pro Ala Ser  
1475 1480 1485

Thr Ala Thr Gly Ala Lys Pro Gly Thr Thr Pro Pro Lys Pro Ser Leu  
1490 1495 1500

Thr Lys Thr Val Val Pro Pro Val Gly Thr Glu Leu Ser Ala Gly Thr  
1505 1510 1515 1520

Val Pro Cys Glu Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Ile Gln  
1525 1530 1535

Thr Gln Gln Pro Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu  
1540 1545 1550

Ser Pro Glu Thr Ile Pro Val Thr Pro Ala Val Gly Pro Leu Ser Thr  
1555 1560 1565

Met Ser Ser Thr Ala Val Thr Glu Ala Gly Ser Gln Pro Gln Lys Asp  
1570 1575 1580

Gly Thr Glu Val His Val Thr Ala Ser Ser Ser Gly Ala Gly Val Val  
1585 1590 1595 1600

Lys Met Gly Arg Phe Gln Val Ser Val Thr Met Asp Asp Ala Gln Lys  
1605 1610 1615

Glu Arg Lys Asn Arg Ser Glu Asp Thr Lys Ser Val His Phe Glu Ser  
1620 1625 1630

Ser Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Pro Glu Ser Thr  
1635 1640 1645

Leu Val Lys Pro Glu Pro Asn Gly Ile Thr Val Ser Gly Ile Ser Leu  
1650 1655 1660

Asp Val Pro Asp Ser Thr His Arg Thr Pro Thr Pro Glu Ala Lys Ser  
1665 1670 1675 1680

Glu Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr  
1685 1690 1695

Ala Asn Lys Val Gly Arg Phe Ser Val Ser Arg Thr Glu Asp Lys Val  
1700 1705 1710

Thr Glu Leu Lys Lys Glu Gly Pro Val Thr Ser Pro Phe Arg Asp Ser  
1715 1720 1725

Glu Gln Thr Val Ile Pro Ala Ala Ile Pro Lys Lys Glu Lys Pro Glu  
1730 1735 1740

Leu Ala Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Leu Glu Ala  
1745 1750 1755 1760

Ala Phe Leu Ser Arg Gly Gly Glu Asp Gly Ser Gly Ser Pro His Ser  
1765 1770 1775

Pro Pro His Leu Cys Ser Lys Ser Leu Pro Ile Gln Thr Leu Ser Gln  
1780 1785 1790

Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu  
1795 1800 1805

Ser Asp Ile Glu Asp Glu Asp Leu Arg Leu Glu Leu Arg Arg Leu Arg  
1810 1815 1820

Glu Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His  
1825 1830 1835 1840

Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val  
1845 1850 1855

Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr  
1860 1865 1870

Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Leu Gly Asn Lys  
1875 1880 1885

Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Gly Thr Ser Val  
1890 1895 1900

Leu Asn Pro Gln Gln Thr Leu His Pro Pro Gly Asn Thr Pro Glu Thr  
1905 1910 1915 1920

Gly His Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp  
1925 1930 1935

Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Ile Pro Ser  
1940 1945 1950

Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Gly  
1955 1960 1965

Thr Val Ser Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser  
1970 1975 1980

Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn  
1985 1990 1995 2000

Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly  
2005 2010 2015

His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro  
2020 2025 2030

Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Met Gly Gly Ser Thr Pro  
2035 2040 2045

Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met  
2050 2055 2060

Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Ala Pro Phe Gly Thr Gln  
2065 2070 2075 2080

Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln  
2085 2090 2095

Pro Val Gly Thr Thr Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln  
2100 2105 2110

Lys Ser Ile Ser Asn Pro Pro Ser Ser Asn Leu Arg Thr Thr  
2115 2120 2125

<210> 40

<211> 2382

<212> PRT

<213> Homo sapiens

<400> 40

Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu  
1 5 10 15

Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp  
20 25 30

Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr  
35 40 45

Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp  
50 55 60

Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Glu His Arg Phe Phe  
65 70 75 80

Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro  
85 90 95

Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro  
100 105 110

Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr  
115 120 125

Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Ala Pro Gly  
130 135 140

Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr  
145 150 155 160

Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu  
165 170 175

Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Ser Ala Lys Glu  
180 185 190

Pro Gln Glu Glu Arg Ser Gln Gln Asp Asp Ile Glu Glu Leu Glu  
195 200 205

Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp  
210 215 220

Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp  
225 230 235 240

Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys  
245 250 255

Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu  
260 265 270

Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu  
275 280 285

Ser Thr Val Lys Gly Lys Cys Ile Val Leu Val Thr Glu Leu Met  
290 295 300

Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys  
305 310 315 320

Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln  
325 330 335

Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys  
340 345 350

Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp  
355 360 365

Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile  
370 375 380

Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp  
385 390 395 400

Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala  
405 410 415

Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr  
420 425 430

Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala  
435 440 445

Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys  
450 455 460

Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln  
465 470 475 480

Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu  
485 490 495

Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu  
500 505 510

Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu  
515 520 525

Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly  
530 535 540

Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp  
545 550 555 560

Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg  
565 570 575

Glu Glu Gln Glu Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln  
580 585 590

Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser  
595 600 605

Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser  
610 615 620

Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln Leu  
625 630 635 640

Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val Asp  
645 650 655

Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser Gln  
660 665 670

Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Thr Gly  
675 680 685

Thr Val Pro Gly His Ile Pro Ser Thr Val Gln Ala Gln Ser Gln Pro  
690 695 700

His Gly Val Tyr Pro Pro Ser Ser Val Ala Gln Gly Gln Ser Gln Gly  
705 710 715 720

Gln Pro Ser Ser Ser Leu Thr Gly Val Ser Ser Ser Gln Pro Ile  
725 730 735

Gln His Pro Gln Gln Gln Gly Ile Gln Gln Thr Ala Pro Pro Gln  
740 745 750

Gln Thr Val Gln Tyr Ser Leu Ser Gln Thr Ser Thr Ser Ser Glu Ala  
755 760 765

Thr Thr Ala Gln Pro Val Ser Gln Pro Gln Ala Pro Gln Val Leu Pro  
770 775 780

Gln Val Ser Ala Gly Lys Gln Leu Pro Val Ser Gln Pro Val Pro Thr  
785 790 795 800

Ile Gln Gly Glu Pro Gln Ile Pro Val Ala Thr Gln Pro Ser Val Val  
805 810 815

Pro Val His Ser Gly Ala His Phe Leu Pro Val Gly Gln Pro Leu Pro  
820 825 830

Thr Pro Leu Leu Pro Gln Tyr Pro Val Ser Gln Ile Pro Ile Ser Thr  
835 840 845

Pro His Val Ser Thr Ala Gln Thr Gly Phe Ser Ser Leu Pro Ile Thr  
850 855 860

Met Ala Ala Gly Ile Thr Gln Pro Leu Leu Thr Leu Ala Ser Ser Ala  
865 870 875 880

Thr Thr Ala Ala Ile Pro Gly Val Ser Thr Val Val Pro Ser Gln Leu  
885 890 895

Pro Thr Leu Leu Gln Pro Val Thr Gln Leu Pro Ser Gln Val His Pro  
900 905 910

Gln Leu Leu Gln Pro Ala Val Gln Ser Met Gly Ile Pro Ala Asn Leu  
915 920 925

Gly Gln Ala Ala Glu Val Pro Leu Ser Ser Gly Asp Val Leu Tyr Gln  
930 935 940

Gly Phe Pro Pro Arg Leu Pro Pro Gln Tyr Pro Gly Asp Ser Asn Ile  
945 950 955 960

Ala Pro Ser Ser Asn Val Ala Ser Val Cys Ile His Ser Thr Val Leu  
965 970 975

Ser Pro Pro Met Pro Thr Glu Val Leu Ala Thr Pro Gly Tyr Phe Pro  
980 985 990

Thr Val Val Gln Pro Tyr Val Glu Ser Asn Leu Leu Val Pro Met Gly  
995 1000 1005

Gly Val Gly Gly Gln Val Gln Val Ser Gln Pro Gly Gly Ser Leu Ala  
1010 1015 1020

Gln Ala Pro Thr Thr Ser Ser Gln Gln Ala Val Leu Glu Ser Thr Gln  
1025 1030 1035 1040

Gly Val Ser Gln Val Ala Pro Ala Glu Pro Val Ala Val Ala Gln Pro  
1045 1050 1055

Gln Ala Thr Gln Pro Thr Thr Leu Ala Ser Ser Val Asp Ser Ala His  
1060 1065 1070

Ser Asp Val Ala Ser Gly Met Ser Asp Gly Asn Glu Asn Val Pro Ser  
1075 1080 1085

Ser Ser Gly Arg His Glu Gly Arg Thr Thr Lys Arg His Tyr Arg Lys  
1090 1095 1100

Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro Lys Leu  
1105 1110 1115 1120

Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu Cys Gln  
1125 1130 1135

Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp Leu Asp  
1140 1145 1150

Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn Asp Phe  
1155 1160 1165

Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Asp Gln Val Arg Glu Ile  
1170 1175 1180

Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val Glu Pro  
1185 1190 1195 1200

Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp Tyr Gly  
1205 1210 1215

Phe Ser Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro Ile Pro  
1220 1225 1230

Ala Ser Ser Met Pro Gln Gln Ile Gly Ile Pro Thr Ser Ser Leu Thr  
1235 1240 1245

Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro Val Pro  
1250 1255 1260

Glu Ser Arg Leu Arg Glu Ser Lys Val Phe Pro Ser Glu Ile Thr Asp  
1265 1270 1275 1280

Thr Val Ala Ala Ser Thr Ala Gln Ser Pro Gly Met Asn Leu Ser His  
1285 1290 1295

Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu Arg Arg  
1300 1305 1310

Ala Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe Ser His  
1315 1320 1325

Thr Gly Pro Thr Phe Pro Val Val Pro Pro Phe Leu Ser Ser Ile Ala  
1330 1335 1340

Gly Val Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser  
1345 1350 1355 1360

Ser Pro Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr  
1365 1370 1375

Val Pro Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val  
1380 1385 1390

Val Thr Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val  
1395 1400 1405

Leu Ser Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile  
1410 1415 1420

Ser Thr Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile  
1425 1430 1435 1440

Val Val Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr  
1445 1450 1455

Ser Ala Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro  
1460 1465 1470

Ala Val Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr  
1475 1480 1485

Leu Thr Ser Val Ser Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln  
1490 1495 1500

Leu Ser Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu  
1505 1510 1515 1520

Thr Val Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser  
1525 1530 1535

Thr Thr Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser  
1540 1545 1550

Pro Gly Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His  
1555 1560 1565

Pro Leu Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln  
1570 1575 1580

Ala Ala Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile  
1585 1590 1595 1600

Pro Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr  
1605 1610 1615

Leu Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His  
1620 1625 1630

Thr His Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly  
1635 1640 1645

Ile Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser  
1650 1655 1660

Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr  
1665 1670 1675 1680

Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala  
1685 1690 1695

Val Ala Pro Ser Lys Leu Leu Thr Ser Thr Ser Thr Cys Leu Pro  
1700 1705 1710

Pro Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro Val Thr Pro Val  
1715 1720 1725

Val Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr Thr Ser Gly  
1730 1735 1740

Val Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro  
1745 1750 1755 1760

Val Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu  
1765 1770 1775

Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro  
1780 1785 1790

Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Ile  
1795 1800 1805

Ile Thr Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr  
1810 1815 1820

Ala Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val  
1825 1830 1835 1840

Lys Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys  
1845 1850 1855

Met Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu  
1860 1865 1870

Gly Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser  
1875 1880 1885

Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Pro Glu Ser Thr Leu  
1890 1895 1900

Val Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp  
1905 1910 1915 1920

Val Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp  
1925 1930 1935

Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Ala  
1940 1945 1950

Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr  
1955 1960 1965

Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu  
1970 1975 1980

Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu  
1985 1990 1995 2000

Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala  
2005 2010 2015

Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser  
2020 2025 2030

Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln  
2035 2040 2045

Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu  
2050 2055 2060

Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg  
2065 2070 2075 2080

Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His  
2085 2090 2095

Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val  
2100 2105 2110

Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr  
2115 2120 2125

Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Leu Gly Asn Lys  
2130 2135 2140

Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val  
2145 2150 2155 2160

Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser  
2165 2170 2175  
Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp  
2180 2185 2190  
Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser  
2195 2200 2205  
Leu Ser Ala Pro Gln Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Ala  
2210 2215 2220  
Thr Val Asn Ser Gln Ala Ala Gln Ala Pro Pro Ala Met Thr Ser  
2225 2230 2235  
Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn  
2240 2245 2250 2255  
Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys GLY  
2260 2265 2270  
His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro  
2275 2280 2285  
Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Ser Lys GLY  
2290 2295 2300  
Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met  
2305 2310 2315 2320  
Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln  
2325 2330 2335  
Trp Ser Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln  
2340 2345 2350  
Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln  
2355 2360 2365  
Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg Thr Thr  
2370 2375 2380

<210> 41  
<211> 251  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: S\_TKc,  
Serine/Threonine protein kinases domain sequence

<400> 41

Val Leu Gly Lys Gly Ala Phe Gly Lys Val Tyr Leu Ala Arg Asp Lys  
1 5 10 15

Lys Thr Gly Lys Leu Val Ala Ile Lys Val Ile Lys Lys Glu Lys Leu  
20 25 30

Lys Lys Lys Arg Glu Arg Ile Leu Arg Glu Ile Lys Ile Leu Lys  
35 40 45

Lys Leu Asp His Pro Asn Ile Val Lys Leu Tyr Asp Val Phe Glu Asp  
50 55 60

Asp Asp Lys Leu Tyr Leu Val Met Glu Tyr Cys Glu Gly Asp Leu  
65 70 75 80

Phe Asp Leu Leu Lys Lys Arg Gly Arg Leu Ser Glu Asp Glu Ala Arg  
85 90 95

Phe Tyr Ala Arg Gln Ile Leu Ser Ala Leu Glu Tyr Leu His Ser Gln  
100 105 110

Gly Ile Ile His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Ser  
115 120 125

Asp Gly His Val Lys Leu Ala Asp Phe Gly Leu Ala Lys Gln Leu Asp  
130 135 140

Ser Gly Gly Thr Leu Leu Thr Thr Phe Val Gly Thr Pro Glu Tyr Met  
145 150 155 160

Ala Pro Glu Val Leu Leu Gly Lys Gly Tyr Gly Lys Ala Val Asp Ile  
165 170 175

Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Pro Pro  
180 185 190

Phe Pro Gly Asp Asp Gln Leu Leu Ala Leu Phe Lys Lys Ile Gly Lys  
195 200 205

Pro Pro Pro Pro Phe Pro Pro Pro Glu Trp Lys Ile Ser Pro Glu Ala  
210 215 220

Lys Asp Leu Ile Lys Lys Leu Leu Val Lys Asp Pro Glu Lys Arg Leu  
225 230 235 240

Thr Ala Glu Glu Ala Leu Glu His Pro Phe Phe  
245 250

<210> 42  
<211> 251  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pkinase,  
Protein kinase domain sequence

<400> 42  
Lys Leu Gly Ser Gly Ala Phe Gly Lys Val Tyr Lys Gly Lys His Lys  
1 5 10 15

Asp Thr Gly Glu Ile Val Ala Ile Lys Ile Leu Lys Lys Arg Ser Leu  
20 25 30

Ser Glu Lys Lys Lys Arg Phe Leu Arg Glu Ile Gln Ile Leu Arg Arg  
35 40 45

Leu Ser His Pro Asn Ile Val Arg Leu Leu Gly Val Phe Glu Glu Asp  
50 55 60

Asp His Leu Tyr Leu Val Met Glu Tyr Met Glu Gly Gly Asp Leu Phe  
65 70 75 80

Asp Tyr Leu Arg Arg Asn Gly Leu Leu Ser Glu Lys Glu Ala Lys  
85 90 95

Lys Ile Ala Leu Gln Ile Leu Arg Gly Leu Glu Tyr Leu His Ser Arg  
100 105 110

Gly Ile Val His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Glu  
115 120 125

Asn Gly Thr Val Lys Ile Ala Asp Phe Gly Leu Ala Arg Lys Leu Glu  
130 135 140

Ser Ser Ser Tyr Glu Lys Leu Thr Phe Val Gly Thr Pro Glu Tyr  
145 150 155 160

Met Ala Pro Glu Val Leu Glu Gly Arg Gly Tyr Ser Ser Lys Val Asp

165

170

175

Val Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Leu  
180 185 190

Pro Phe Pro Gly Ile Asp Pro Leu Glu Glu Leu Phe Arg Ile Lys Glu  
195 200 205

Arg Pro Arg Leu Arg Leu Pro Leu Pro Pro Asn Cys Ser Glu Glu Leu  
210 215 220

Lys Asp Leu Ile Lys Lys Cys Leu Asn Lys Asp Pro Glu Lys Arg Pro  
225 230 235 240

Thr Ala Lys Glu Ile Leu Asn His Pro Trp Phe  
245 250

<210> 43

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TyrKc,  
Tyrosine kinase domain sequence

<400> 43

Leu Thr Leu Gly Lys Lys Leu Gly Glu Gly Ala Phe Gly Glu Val Tyr  
1 5 10 15

Lys Gly Thr Leu Lys Gly Lys Gly Gly Val Glu Val Glu Val Ala Val  
20 25 30

Lys Thr Leu Lys Glu Asp Ala Ser Glu Gln Gln Ile Glu Glu Phe Leu  
35 40 45

Arg Glu Ala Arg Leu Met Arg Lys Leu Asp His Pro Asn Ile Val Lys  
50 55 60

Leu Leu Gly Val Cys Thr Glu Glu Glu Pro Leu Met Ile Val Met Glu  
65 70 75 80

Tyr Met Glu Gly Gly Asp Leu Leu Asp Tyr Leu Arg Lys Asn Arg Pro  
85 90 95

Lys Glu Leu Ser Leu Ser Asp Leu Leu Ser Phe Ala Leu Gln Ile Ala  
100 105 110

Arg Gly Met Glu Tyr Leu Glu Ser Lys Asn Phe Val His Arg Asp Leu  
115 120 125

Ala Ala Arg Asn Cys Leu Val Gly Glu Asn Lys Thr Val Lys Ile Ala  
130 135 140

Asp Phe Gly Leu Ala Arg Asp Leu Tyr Asp Asp Asp Tyr Tyr Arg Lys  
145 150 155 160

Lys Lys Ser Pro Arg Leu Pro Ile Arg Trp Met Ala Pro Glu Ser Leu  
165 170 175

Lys Asp Gly Lys Phe Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val  
180 185 190

Leu Leu Trp Glu Ile Phe Thr Leu Gly Glu Ser Pro Tyr Pro Gly Met  
195 200 205

Ser Asn Glu Glu Val Leu Glu Tyr Leu Lys Lys Gly Tyr Arg Leu Pro  
210 215 220

Gln Pro Pro Asn Cys Pro Asp Glu Ile Tyr Asp Leu Met Leu Gln Cys  
225 230 235 240

Trp Ala Glu Asp Pro Glu Asp Arg Pro Thr Phe Ser Glu Leu  
245 250

<210> 44  
<211> 314  
<212> PRT  
<213> Homo sapiens

<400> 44  
Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu  
20 25 30

Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val  
35 40 45

Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala  
50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln

65	70	75	80
Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly			
85	90	95	
Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys			
100	105	110	
Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys			
115	120	125	
Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu			
130	135	140	
Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser			
145	150	155	160
Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His			
165	170	175	
Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr			
180	185	190	
Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu			
195	200	205	
Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala			
210	215	220	
Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr			
225	230	235	240
Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile			
245	250	255	
Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met			
260	265	270	
Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu			
275	280	285	
Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu			
290	295	300	
Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu			
305	310		

<210> 45  
 <211> 233  
 <212> PRT  
 <213> Marmota marmota

<400> 45  
 Pro Met Tyr Leu Phe Leu Gly Asn Leu Ser Phe Leu Asp Leu Ser Phe  
 1 5 10 15

Thr Ser Ser Ile Pro Gln Leu Leu His Asn Leu Ser Gly Arg Asp Lys  
 20 25 30

Thr Ile Ser Tyr Val Gly Cys Val Val Gln Leu Phe Leu Phe Leu Gly  
 35 40 45

Leu Gly Gly Val Glu Cys Leu Leu Leu Ala Val Ala Tyr Asp Arg Val  
 50 55 60

Ala Val Cys Lys Pro Leu His Tyr Thr Val Ile Met Ser Ser Arg Leu  
 65 70 75 80

Cys Leu Gly Leu Val Ser Val Ala Trp Gly Cys Gly Met Ala Asn Ser  
 85 90 95

Leu Val Met Ser Pro Val Thr Leu Gln Leu Pro Arg Cys Gly His Asn  
 100 105 110

Lys Val Asp His Phe Leu Cys Glu Met Pro Ala Ile Arg Met Ala Cys  
 115 120 125

Val Asn Thr Val Ala Ile Glu Gly Thr Val Phe Val Leu Ala Val Gly  
 130 135 140

Ile Val Leu Ser Pro Leu Val Phe Ile Leu Val Ser Tyr Gly His Ile  
 145 150 155 160

Val Arg Ala Val Phe Arg Ile Gln Ser Ser Ser Gly Arg His Arg Ile  
 165 170 175

Phe Asn Thr Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly  
 180 185 190

Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ser Arg Ser Ser Gln Asp  
 195 200 205

Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu  
 210 215 220

Asn Pro Phe Ile Tyr Ser Leu Arg Asn  
225 230

<210> 46  
<211> 320  
<212> PRT  
<213> Homo sapiens

<400> 46  
Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala  
20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala  
35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln  
65 70 75 80

Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly  
85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys  
100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys  
115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met  
130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys  
145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His  
165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr  
180 185 190

Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Val Leu  
195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala  
210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr  
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile  
245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys  
260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu  
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu  
290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser  
305 310 315 320

<210> 47  
<211> 320  
<212> PRT  
<213> Homo sapiens

<400> 47  
Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala  
20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala  
35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Leu Arg  
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln  
65 70 75 80

Val Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly

85

90

95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys  
 100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys  
 115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met  
 130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys  
 145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His  
 165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr  
 180 185 190

Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu  
 195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala  
 210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr  
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile  
 245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys  
 260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu  
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu  
 290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser  
 305 310 315 320

<210> 48  
<211> 320  
<212> PRT  
<213> Homo sapiens

<400> 48  
Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly  
1 5 10 15  
  
Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala  
20 25 30  
  
Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala  
35 40 45  
  
Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
50 55 60  
  
Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln  
65 70 75 80  
  
Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly  
85 90 95  
  
Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys  
100 105 110  
  
Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys  
115 120 125  
  
Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met  
130 135 140  
  
Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys  
145 150 155 160  
  
Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His  
165 170 175  
  
Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr  
180 185 190  
  
Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Val Leu  
195 200 205  
  
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala  
210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr  
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile  
245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys  
260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu  
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu  
290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser  
305 310 315 320

<210> 49

<211> 253

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 7tm\_1, 7  
transmembrane receptor domain sequence

<400> 49

Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg  
1 5 10 15

Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu  
20 25 30

Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly  
35 40 45

Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Gly Ala Leu Phe Val  
50 55 60

Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile Asp  
65 70 75 80

Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg Thr

85

90

95

Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala Leu  
 100 105 110

Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val Glu  
 115 120 125

Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser Val  
 130 135 140

Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu Pro  
 145 150 155 160

Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu Arg  
 165 170 175

Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser Glu  
 180 185 190

Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Phe Val Leu  
 195 200 205

Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys Leu  
 210 215 220

Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu Trp  
 225 230 235 240

Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr  
 245 250

<210> 50

<211> 315

<212> PRT

<213> Homo sapiens

<400> 50

Met Ala Gln Leu Gly Gly Ala Ala Asn Arg Ala Pro Thr Ala Ser Leu  
 1 5 10 15

Ala Pro Thr Ser Gln Ser Leu Arg Cys Ala Pro Gln Pro Arg Pro Ser  
 20 25 30

Arg Ala Asp Thr Gly Ser Leu Gly Arg Tyr Trp Gly Lys Ala Ala Ala  
 35 40 45

Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala  
50 55 60

Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu  
65 70 75 80

Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu  
85 90 95

Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro  
100 105 110

Arg Glu His Ala Trp Ile Leu Ala Ala Glu Gly Arg Tyr Glu Val  
115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Arg Gly Asp  
130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg  
145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu  
165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Leu Thr Pro Leu His  
180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly  
195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala  
210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser  
225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu  
245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val  
260 265 270

Gly Ala Thr Ala Val Glu Thr Ser Arg Arg Val Ala Ala Ser Arg Thr  
275 280 285

Lys Ala Lys Asp Thr Ala Gly Ser Arg Val Ala Gln Met His Ser Leu  
290 295 300

Phe Arg His Leu Phe Pro Ser Phe Gln Asp Arg  
305 310 315

<210> 51  
<211> 32  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: domain  
sequence

<400> 51  
Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val  
1 5 10 15

Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp Lys  
20 25 30

<210> 52  
<211> 2062  
<212> PRT  
<213> Homo sapiens

<400> 52  
Met Pro Lys Ser Gly Phe Thr Lys Pro Ile Gln Ser Glu Asn Ser Asp  
1 5 10 15

Ser Asp Ser Asn Met Val Glu Lys Pro Tyr Gly Arg Lys Ser Lys Asp  
20 25 30

Lys Ile Ala Ser Tyr Ser Lys Thr Pro Lys Ile Glu Arg Ser Asp Val  
35 40 45

Ser Lys Glu Met Lys Glu Lys Ser Ser Met Lys Arg Lys Leu Pro Phe  
50 55 60

Thr Ile Ser Pro Ser Arg Asn Glu Glu Arg Asp Ser Asp Thr Asp Ser  
65 70 75 80

Asp Pro Gly His Thr Ser Glu Asn Trp Gly Glu Arg Leu Ile Ser Ser  
85 90 95

Tyr Arg Thr Tyr Ser Glu Lys Glu Gly Pro Glu Lys Lys Lys Thr Lys  
100 105 110

Lys Glu Ala Gly Asn Lys Lys Ser Thr Pro Val Ser Ile Leu Phe Gly  
115 120 125

Tyr Pro Leu Ser Glu Arg Lys Gln Met Ala Leu Leu Met Gln Met Thr  
130 135 140

Ala Arg Asp Asn Ser Pro Asp Ser Thr Pro Asn His Pro Ser Gln Thr  
145 150 155 160

Thr Pro Ala Gln Lys Lys Thr Pro Ser Ser Ser Arg Gln Lys Asp  
165 170 175

Lys Val Asn Lys Arg Asn Glu Arg Gly Glu Thr Pro Leu His Met Ala  
180 185 190

Ala Ile Arg Gly Asp Val Lys Gln Val Lys Glu Leu Ile Ser Leu Gly  
195 200 205

Ala Asn Val Asn Val Lys Asp Phe Ala Gly Trp Thr Pro Leu His Glu  
210 215 220

Ala Cys Asn Val Gly Tyr Tyr Asp Val Ala Lys Ile Leu Ile Ala Ala  
225 230 235 240

Gly Ala Asp Val Asn Thr Gln Gly Leu Asp Asp Asp Thr Pro Leu His  
245 250 255

Asp Ser Ala Ser Ser Gly His Arg Asp Ile Val Lys Leu Leu Arg  
260 265 270

His Gly Gly Asn Pro Phe Gln Ala Asn Lys His Gly Glu Arg Pro Val  
275 280 285

Asp Val Ala Glu Thr Glu Glu Leu Glu Leu Leu Lys Arg Glu Val  
290 295 300

Pro Leu Ser Asp Asp Asp Glu Ser Tyr Thr Asp Ser Glu Glu Ala Gln  
305 310 315 320

Ser Val Asn Pro Ser Ser Val Asp Glu Asn Ile Asp Ser Glu Thr Glu  
325 330 335

Lys Asp Ser Leu Ile Cys Glu Ser Lys Gln Ile Leu Pro Ser Lys Thr  
340 345 350

Pro Leu Pro Ser Ala Leu Asp Glu Tyr Glu Phe Lys Asp Asp Asp Asp  
355 360 365

Glu Glu Ile Asn Lys Met Ile Asp Asp Arg His Ile Leu Arg Lys Glu  
370 375 380

Gln Arg Lys Glu Asn Glu Pro Glu Ala Glu Lys Thr His Leu Phe Ala  
385 390 395 400

Lys Gln Glu Lys Ala Phe Tyr Pro Lys Ser Phe Lys Ser Lys Lys Gln  
405 410 415

Lys Pro Ser Arg Val Leu Tyr Ser Ser Thr Glu Ser Ser Asp Glu Glu  
420 425 430

Ala Leu Gln Asn Lys Lys Ile Ser Thr Ser Cys Ser Val Ile Pro Glu  
435 440 445

Thr Ser Asn Ser Asp Met Gln Thr Lys Lys Glu Tyr Val Val Ser Gly  
450 455 460

Glu His Lys Gln Lys Gly Lys Val Lys Arg Lys Leu Lys Asn Gln Asn  
465 470 475 480

Lys Asn Lys Glu Asn Gln Glu Leu Lys Gln Glu Lys Glu Gly Lys Glu  
485 490 495

Asn Thr Arg Ile Thr Asn Leu Thr Val Asn Thr Gly Leu Asp Cys Ser  
500 505 510

Glu Lys Thr Arg Glu Glu Gly Asn Phe Arg Lys Ser Phe Ser Pro Lys  
515 520 525

Asp Asp Thr Ser Leu His Leu Phe His Ile Ser Thr Gly Lys Ser Pro  
530 535 540

Lys His Ser Cys Gly Leu Ser Glu Lys Gln Ser Thr Pro Leu Lys Gln  
545 550 555 560

Glu His Thr Lys Thr Cys Leu Ser Pro Gly Ser Ser Glu Met Ser Leu  
565 570 575

Gln Pro Asp Leu Val Arg Tyr Asp Asn Thr Glu Ser Glu Phe Leu Pro  
580 585 590

Glu Ser Ser Ser Val Lys Ser Cys Lys His Lys Glu Lys Ser Lys His  
595 600 605

Gln Lys Asp Phe His Leu Glu Phe Gly Glu Lys Ser Asn Ala Lys Ile  
610 615 620

Lys Asp Glu Asp His Ser Pro Thr Phe Glu Asn Ser Asp Cys Thr Leu  
625 630 635 640

Lys Lys Met Asp Lys Glu Gly Lys Thr Leu Lys Lys His Lys Leu Lys  
645 650 655

His Lys Glu Arg Glu Lys Glu Lys His Lys Lys Glu Ile Glu Gly Glu  
660 665 670

Lys Glu Lys Tyr Lys Thr Lys Asp Ser Ala Lys Glu Leu Gln Arg Ser  
675 680 685

Val Glu Phe Asp Arg Glu Phe Trp Lys Glu Asn Phe Phe Lys Ser Asp  
690 695 700

Glu Thr Glu Asp Leu Phe Leu Asn Met Glu His Glu Ser Leu Thr Leu  
705 710 715 720

Glu Lys Lys Ser Lys Leu Glu Lys Asn Ile Lys Asp Asp Lys Ser Thr  
725 730 735

Lys Glu Lys His Val Ser Lys Glu Arg Asn Phe Lys Glu Glu Arg Asp  
740 745 750

Lys Ile Lys Lys Glu Ser Glu Lys Ser Phe Arg Glu Glu Lys Ile Lys  
755 760 765

Asp Leu Lys Glu Glu Arg Glu Asn Ile Pro Thr Asp Lys Asp Ser Glu  
770 775 780

Phe Thr Ser Leu Gly Met Ser Ala Ile Glu Glu Ser Ile Gly Leu His  
785 790 795 800

Leu Val Glu Lys Glu Ile Asp Ile Glu Lys Gln Glu Lys His Ile Lys  
805 810 815

Glu Ser Lys Glu Lys Pro Glu Lys Arg Ser Gln Ile Lys Glu Lys Asp  
820 825 830

Ile Glu Lys Met Glu Arg Lys Thr Phe Glu Lys Glu Lys Ile Lys  
835 840 845

His Glu His Lys Ser Glu Lys Asp Lys Leu Asp Leu Ser Glu Cys Val  
850 855 860

Asp Lys Ile Lys Glu Lys Asp Lys Leu Tyr Ser His His Thr Glu Lys  
865 870 875 880

Cys His Lys Glu Gly Glu Lys Ser Lys Asn Thr Ala Ala Ile Lys Lys  
885 890 895

Thr Asp Asp Arg Glu Lys Ser Arg Glu Lys Met Asp Arg Lys His Asp  
900 905 910

Lys Glu Lys Pro Glu Lys Glu Arg His Leu Ala Glu Ser Lys Glu Lys  
915 920 925

His Leu Met Glu Lys Lys Asn Lys Gln Ser Asp Asn Ser Glu Tyr Ser  
930 935 940

Lys Ser Glu Lys Gly Lys Asn Lys Glu Lys Asp Arg Glu Leu Asp Lys  
945 950 955 960

Lys Glu Lys Ser Arg Asp Lys Glu Ser Ile Asn Ile Thr Asn Ser Lys  
965 970 975

His Ile Gln Glu Glu Lys Lys Ser Ser Ile Val Asp Gly Asn Lys Ala  
980 985 990

Gln His Glu Lys Pro Leu Ser Leu Lys Glu Lys Thr Lys Asp Glu Pro  
995 1000 1005

Leu Lys Thr Pro Asp Gly Lys Glu Lys Asp Lys Lys Asp Lys Asp Ile  
1010 1015 1020

Asp Arg Tyr Lys Glu Arg Asp Lys His Lys Asp Lys Ile Gln Ile Asn  
1025 1030 1035 1040

Ser Leu Leu Lys Leu Lys Ser Glu Ala Asp Lys Pro Lys Pro Lys Ser  
1045 1050 1055

Ser Pro Ala Ser Lys Asp Thr Arg Pro Lys Glu Lys Arg Leu Val Asn  
1060 1065 1070

Asp Asp Leu Met Gln Thr Ser Phe Glu Arg Met Leu Ser Leu Lys Asp  
1075 1080 1085

Leu Glu Ile Glu Gln Trp His Lys Lys His Lys Glu Lys Ile Lys Gln  
1090 1095 1100

Lys Glu Lys Glu Arg Leu Arg Asn Arg Asn Cys Leu Glu Leu Lys Ile  
1105 1110 1115 1120

Lys Asp Lys Glu Lys Thr Lys His Thr Pro Thr Glu Ser Lys Asn Lys  
1125 1130 1135

Glu Leu Thr Arg Ser Lys Ser Ser Glu Val Thr Asp Ala Tyr Thr Lys  
1140 1145 1150

Glu Lys Gln Pro Lys Asp Ala Val Ser Asn Arg Ser Gln Ser Val Asp  
1155 1160 1165

Thr Lys Asn Val Met Thr Leu Gly Lys Ser Ser Phe Val Ser Asp Asn  
1170 1175 1180

Ser Leu Asn Arg Ser Pro Arg Ser Glu Asn Glu Lys Pro Gly Leu Ser  
1185 1190 1195 1200

Ser Arg Ser Val Ser Met Ile Ser Val Ala Ser Ser Glu Asp Ser Cys  
1205 1210 1215

His Thr Thr Val Thr Thr Pro Arg Pro Pro Val Glu Tyr Asp Ser Asp  
1220 1225 1230

Phe Met Leu Glu Ser Ser Glu Ser Gln Met Ser Phe Ser Gln Ser Pro  
1235 1240 1245

Phe Leu Ser Ile Ala Lys Ser Pro Ala Leu His Glu Arg Glu Leu Asp  
1250 1255 1260

Ser Leu Ala Asp Leu Pro Glu Arg Ile Lys Pro Pro Tyr Ala Asn Arg  
1265 1270 1275 1280

Leu Ser Thr Ser His Leu Arg Ser Ser Val Glu Asp Val Lys Leu  
1285 1290 1295

Ile Ile Ser Glu Gly Arg Pro Thr Ile Glu Val Arg Arg Cys Ser Met  
1300 1305 1310

Pro Ser Val Ile Cys Glu His Thr Lys Gln Phe Gln Thr Ile Ser Glu  
1315 1320 1325

Glu Ser Asn Gln Gly Ser Leu Leu Thr Val Pro Gly Asp Thr Ser Pro  
1330 1335 1340

Ser Pro Lys Pro Glu Val Phe Ser Asn Val Pro Glu Arg Asp Leu Ser  
1345 1350 1355 1360

Asn Val Ser Asn Ile His Ser Ser Phe Ala Thr Ser Pro Thr Gly Ala  
1365 1370 1375

Ser Asn Ser Lys Tyr Val Ser Ala Asp Arg Asn Leu Ile Lys Asn Thr  
1380 1385 1390

Ala Pro Val Asn Thr Val Met Asp Ser Pro Val His Leu Glu Pro Ser  
1395 1400 1405

Ser Gln Val Gly Val Ile Gln Asn Lys Ser Trp Glu Met Pro Val Asp  
1410 1415 1420

Arg Leu Glu Thr Leu Ser Thr Arg Asp Phe Ile Cys Pro Asn Ser Asn  
1425 1430 1435 1440

Ile Pro Asp Gln Glu Ser Ser Leu Gln Ser Phe Cys Asn Ser Glu Asn  
1445 1450 1455

Lys Val Leu Lys Glu Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu  
1460 1465 1470

Leu Pro Gly Asn Ser Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro  
1475 1480 1485

Gln Gln Pro Cys Ser Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser  
1490 1495 1500

Ile Ser Lys His Met Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly  
1505 1510 1515 1520

Ile Leu Gln Gln Lys Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp  
1525 1530 1535

Thr Asp Asn Glu Ser Thr Lys Asp Thr Glu Asn Thr Phe Val Leu Gly  
1540 1545 1550

Asp Val Gln Lys Thr Asp Ala Phe Val Pro Val Tyr Ser Asp Ser Thr  
1555 1560 1565

Ile Gln Glu Ala Ser Pro Asn Phe Glu Lys Ala Tyr Thr Leu Pro Val  
1570 1575 1580

Leu Pro Ser Glu Lys Asp Phe Asn Gly Ser Asp Ala Ser Thr Gln Leu  
1585 1590 1595 1600

Asn Thr His Tyr Ala Phe Ser Lys Leu Thr Tyr Lys Ser Ser Ser Gly  
1605 1610 1615

His Glu Val Glu Asn Ser Thr Thr Asp Thr Gln Val Ile Ser His Glu  
1620 1625 1630

Lys Glu Asn Lys Leu Glu Ser Leu Val Leu Thr His Leu Ser Arg Cys  
1635 1640 1645

Asp Ser Asp Leu Cys Glu Met Asn Ala Gly Met Pro Lys Gly Asn Leu  
1650 1655 1660

Asn Glu Gln Asp Pro Lys His Cys Pro Glu Ser Glu Lys Cys Leu Leu  
1665 1670 1675 1680

Ser Ile Glu Asp Glu Glu Ser Gln Gln Ser Ile Leu Ser Ser Leu Glu  
1685 1690 1695

Asn His Ser Gln Gln Ser Thr Gln Pro Glu Met His Lys Tyr Gly Gln  
1700 1705 1710

Leu Val Lys Val Glu Leu Glu Asn Ala Glu Asp Asp Lys Thr Glu  
1715 1720 1725

Asn Gln Ile Pro Gln Arg Met Thr Arg Asn Lys Ala Asn Thr Met Ala  
1730 1735 1740

Asn Gln Ser Lys Gln Ile Leu Ala Ser Cys Thr Leu Leu Ser Glu Lys  
1745 1750 1755 1760

Asp Ser Glu Ser Ser Pro Arg Gly Arg Ile Arg Leu Thr Glu Asp  
1765 1770 1775

Asp Asp Pro Gln Ile His His Pro Arg Lys Arg Lys Val Ser Arg Val  
1780 1785 1790

Pro Gln Pro Val Gln Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys  
1795 1800 1805

Thr Gln Gln Ser Leu Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu  
1810 1815 1820

Ile Gln Pro Tyr Ser Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu  
1825 1830 1835 1840

His Ile Arg Lys Lys Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val  
1845 1850 1855

Ile Pro Gln Ala Pro Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly  
1860 1865 1870

Ser Tyr Leu Leu Asp Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr  
1875 1880 1885

Ile Thr Pro Pro Pro Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg			
1890	1895	1900	
Gln Gln Glu Val Val Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu			
1905	1910	1915	1920
Arg Glu Lys Leu Ile Val Ser Asn Glu Gln Glu Val Leu Arg Val His			
1925	1930	1935	
Tyr Arg Ala Ala Arg Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala			
1940	1945	1950	
Cys Thr Val Leu Leu Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser			
1955	1960	1965	
Gln Ser Asp Asp Ser Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg			
1970	1975	1980	
Gln Phe Met Ser Trp Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu			
1985	1990	1995	2000
Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn			
2005	2010	2015	
Ala Val Gln Arg Leu Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro			
2020	2025	2030	
Ala Thr Tyr Lys Ser Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val			
2035	2040	2045	
Pro Leu Val Asp Val Asn Asp Asp Phe Glu Leu Thr Pro Ile			
2050	2055	2060	

<210> 53  
 <211> 399  
 <212> PRT  
 <213> Homo sapiens

<400> 53			
Met Pro Gln Ser Ser Ala Lys Asp Tyr Leu Gly Glu Tyr Cys Ile Leu			
1	5	10	15
Lys Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu Ala			
20	25	30	
Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gly Ile Gln Pro			
35	40	45	

Glu	Ala	Ala	Glu	Pro	Lys	Pro	Thr	Ala	Glu	Ala	Pro	Lys	Ala	Pro	Arg
50															60
Val	Glu	Glu	Ile	Pro	Gln	Arg	Met	Thr	Arg	Asn	Arg	Ala	Gln	Met	Leu
65															80
Ala	Asn	Gln	Ser	Lys	Gln	Gly	Pro	Pro	Pro	Ser	Glu	Lys	Glu	Cys	Ala
															95
85															
Pro	Thr	Pro	Ala	Pro	Val	Thr	Arg	Ala	Lys	Ala	Arg	Gly	Ser	Glu	Asp
															110
100															
Asp	Asp	Ala	Gln	Ala	Gln	His	Pro	Arg	Lys	Arg	Arg	Phe	Gln	Arg	Ser
															125
115															
Thr	Gln	Gln	Leu	Gln	Gln	Leu	Asn	Thr	Ser	Thr	Gln	Gln	Thr	Arg	
130															140
Glu	Val	Ile	Gln	Gln	Thr	Leu	Ala	Ala	Ile	Val	Asp	Ala	Ile	Lys	Leu
															160
145															
Asp	Ala	Ile	Glu	Pro	Tyr	His	Ser	Asp	Arg	Ala	Asn	Pro	Tyr	Phe	Glu
															175
165															
Tyr	Leu	Gln	Ile	Arg	Lys	Lys	Ile	Glu	Glu	Lys	Arg	Lys	Ile	Leu	Cys
180															190
Cys	Ile	Thr	Pro	Gln	Ala	Pro	Gln	Trp	Tyr	Ala	Gln	Tyr	Val	Thr	Tyr
															205
195															
Thr	Gly	Ser	Tyr	Leu	Leu	Asp	Gly	Lys	Pro	Leu	Ser	Lys	Leu	His	Ile
															210
210															
215															220
Pro	Val	Ile	Ala	Pro	Pro	Pro	Ser	Leu	Ala	Glu	Pro	Leu	Lys	Glu	Leu
															225
225															
230															240
Phe	Arg	Gln	Gln	Glu	Ala	Val	Arg	Gly	Lys	Leu	Arg	Leu	Gln	His	Ser
															245
245															
250															255
Ile	Glu	Arg	Glu	Lys	Leu	Ile	Val	Ser	Cys	Glu	Gln	Glu	Ile	Leu	Arg
															260
260															
265															270
Val	His	Cys	Arg	Ala	Ala	Arg	Thr	Ile	Ala	Asn	Gln	Ala	Val	Pro	Phe
															275
275															
280															285
Ser	Thr	Cys	Thr	Met	Leu	Leu	Asp	Ser	Glu	Val	Tyr	Asn	Met	Pro	Leu
															290
290															
295															300

Glu Ser Gln Gly Asp Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala  
305 310 315 320

Arg Gln Phe Ile Ser Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg  
325 330 335

Met Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu  
340 345 350

Asn Ala Val Gln Arg Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp  
355 360 365

Pro Ala Gly His Lys Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr  
370 375 380

Val Pro Met Val Asp Val Asn Asp Asp Phe Val Leu Leu Pro Ala  
385 390 395

<210> 54  
<211> 366  
<212> PRT  
<213> Homo sapiens

<400> 54  
Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro  
1 5 10 15

Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp  
20 25 30

Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly  
35 40 45

Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala  
50 55 60

Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro  
65 70 75 80

Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu  
85 90 95

Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser  
100 105 110

Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser

115	120	125
Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr		
130	135	140
Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys		
145	150	155
Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala		
165	170	175
Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala		
180	185	190
Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala		
195	200	205
Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly		
210	215	220
Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp		
225	230	235
240		
Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr		
245	250	255
Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys		
260	265	270
Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr		
275	280	285
Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp		
290	295	300
Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp		
305	310	315
320		
Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His		
325	330	335
Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr		
340	345	350
Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr		
355	360	365

<210> 55  
<211> 366  
<212> PRT  
<213> Homo sapiens

<400> 55  
Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro  
1 5 10 15  
  
Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp  
20 25 30  
  
Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly  
35 40 45  
  
Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala  
50 55 60  
  
Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro  
65 70 75 80  
  
Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu  
85 90 95  
  
Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser  
100 105 110  
  
Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser  
115 120 125  
  
Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr  
130 135 140  
  
Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys  
145 150 155 160  
  
Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala  
165 170 175  
  
Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala  
180 185 190  
  
Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala  
195 200 205  
  
Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly  
210 215 220

Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp  
 225 230 235 240  
  
 Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr  
 245 250 255  
  
 Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys  
 260 265 270  
  
 Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr  
 275 280 285  
  
 Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp  
 290 295 300  
  
 Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp  
 305 310 315 320  
  
 Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His  
 325 330 335  
  
 Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr  
 340 345 350  
  
 Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr  
 355 360 365

<210> 56  
 <211> 601  
 <212> PRT  
 <213> Homo sapiens

<400> 56  
 Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu Leu Pro Gly Asn Ser  
 1 5 10 15  
  
 Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro Gln Gln Pro Cys Ser  
 20 25 30  
  
 Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser Ile Ser Lys His Met  
 35 40 45  
  
 Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly Ile Leu Gln Gln Lys  
 50 55 60  
  
 Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp Thr Asp Asn Glu Ser  
 65 70 75 80

Thr Lys Asp Thr Glu Asn Thr Phe Val Leu Gly Asp Val Gln Lys Thr  
85 90 95

Asp Ala Phe Val Pro Val Tyr Ser Asp Ser Thr Ile Gln Glu Ala Ser  
100 105 110

Pro Asn Phe Glu Lys Ala Tyr Thr Leu Pro Val Leu Pro Ser Glu Lys  
115 120 125

Asp Phe Asn Gly Ser Asp Ala Ser Thr Gln Leu Asn Thr His Tyr Ala  
130 135 140

Phe Ser Lys Leu Thr Tyr Lys Ser Ser Ser Gly His Glu Val Glu Asn  
145 150 155 160

Ser Thr Thr Asp Thr Gln Val Ile Ser His Glu Lys Glu Asn Lys Leu  
165 170 175

Glu Ser Leu Val Leu Thr His Leu Ser Arg Cys Asp Ser Asp Leu Cys  
180 185 190

Glu Met Asn Ala Gly Met Pro Lys Gly Asn Leu Asn Glu Gln Asp Pro  
195 200 205

Lys His Cys Pro Glu Ser Glu Lys Cys Leu Leu Ser Ile Glu Asp Glu  
210 215 220

Glu Ser Gln Gln Ser Ile Leu Ser Ser Leu Glu Asn His Ser Gln Gln  
225 230 235 240

Ser Thr Gln Pro Glu Met His Lys Tyr Gly Gln Leu Val Lys Val Glu  
245 250 255

Leu Glu Glu Asn Ala Glu Asp Asp Lys Thr Glu Asn Gln Ile Pro Gln  
260 265 270

Arg Met Thr Arg Asn Lys Ala Asn Thr Met Ala Asn Gln Ser Lys Gln  
275 280 285

Ile Leu Ala Ser Cys Thr Leu Leu Ser Glu Lys Asp Ser Glu Ser Ser  
290 295 300

Ser Pro Arg Gly Arg Ile Arg Leu Thr Glu Asp Asp Asp Pro Gln Ile  
305 310 315 320

His His Pro Arg Lys Arg Lys Val Ser Arg Val Pro Gln Pro Val Gln  
325 330 335

Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys Thr Gln Gln Ser Leu  
340 345 350

Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu Ile Gln Pro Tyr Ser  
355 360 365

Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu His Ile Arg Lys Lys  
370 375 380

Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val Ile Pro Gln Ala Pro  
385 390 395 400

Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly Ser Tyr Leu Leu Asp  
405 410 415

Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr Ile Thr Pro Pro Pro  
420 425 430

Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu Val Val  
435 440 445

Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys Leu Ile  
450 455 460

Val Ser Asn Glu Gln Glu Val Leu Arg Val His Tyr Arg Ala Ala Arg  
465 470 475 480

Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala Cys Thr Val Leu Leu  
485 490 495

Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser Gln Ser Asp Asp Ser  
500 505 510

Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Met Ser Trp  
515 520 525

Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu Lys Thr Cys Leu Leu  
530 535 540

Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg Leu  
545 550 555 560

Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro Ala Thr Tyr Lys Ser  
565 570 575

Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val Pro Leu Val Asp Val  
580 585 590

Asn Asp Asp Phe Glu Leu Thr Pro Ile  
595 600

<210> 57  
<211> 999  
<212> PRT  
<213> Homo sapiens

<400> 57  
Met Ile Ser Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Ile Ile Lys  
1 5 10 15  
Val Ser Lys Asp Glu Lys Ser Leu Lys Arg Ile Lys Gly Met Asn Lys  
20 25 30

Asp Ile Ser Arg Ser Phe Gln Glu Glu Lys Asp Cys Ser Asn Thr Ala  
35 40 45

Glu Lys Glu Lys Ser Leu Lys Glu Lys Ser Ser Lys Glu Glu Lys Leu  
50 55 60

Arg Leu Tyr Lys Glu Glu Arg Lys Thr Pro Lys Arg Gln Lys Asp Lys  
65 70 75 80

Glu Pro Lys Asp Lys Arg Lys Asp Thr Gly Ala Ala Asp Gly Val Thr  
85 90 95

Asp Lys Lys Glu Lys Val Leu Glu Lys His Lys Glu Lys Lys Val Lys  
100 105 110

Glu Tyr Gln Lys Asn Lys Lys Asn Lys Gln Lys Leu Pro Glu Lys Ala  
115 120 125

Glu Lys Lys Gln Ser Ala Glu Asp Lys Ala Asn Ser Lys His Lys Glu  
130 135 140

Lys Ser Asp Lys Glu Tyr Ser Lys Glu Arg Lys Ser Leu Arg Ser Ala  
145 150 155 160

Asp Met Glu Lys Ser Leu Leu Glu Lys Leu Glu Glu Ala Leu His Glu  
165 170 175

Tyr Arg Asp Asp Ser Ser Asp Lys Ile Thr Thr Thr Glu Arg Asp Ser  
180 185 190

Gln Glu Arg Lys Val Pro Glu Glu Lys Gly Arg Asp Tyr Lys Glu Gly

195 200 205  
Gly Ser Arg Lys Asp Thr Gly Gln Tyr Glu Lys Asp Phe Leu Glu Met  
210 215 220  
Val Ala Tyr Gly Val Ser Tyr Asn Met Lys Ala Val Ile Glu Asp Arg  
225 230 235 240  
Leu Asn Lys Thr Val Glu Leu Phe Ser Thr Glu Lys Lys Asp Lys Asn  
245 250 255  
Asp Ser Glu Arg Glu Thr Ser Lys Lys Ile Glu Lys Glu Leu Lys Pro  
260 265 270  
Tyr Gly Ser Arg Thr Lys Gln Lys Pro Thr Ala Arg Asp Lys Asp Ser  
275 280 285  
Pro Pro Arg Ala Leu Lys Asp Lys Ser Arg Asp Glu Asp Pro Arg Leu  
290 295 300  
Arg Lys Ala Lys Leu Lys Glu Lys Phe Lys Asp Ser Ala Glu Lys Glu  
305 310 315 320  
Lys Asp Asp Ser Val Lys Met Ser Lys Gly Asp Asp Lys Val Ser Pro  
325 330 335  
Ser Lys Asp Pro Gly Lys Lys Asn Ala Arg Pro Arg Glu Lys Leu Arg  
340 345 350  
Gly Asp Gly Asp Met Met Ile Ile Ser Phe Gln Arg Met Phe Ser Gln  
355 360 365  
Lys Asp Leu Glu Ile Glu Glu Arg His Lys Gly His Lys Glu Arg Met  
370 375 380  
Lys Gln Met Glu Lys Leu Arg His Gln Ser Arg Asp Pro Asn Leu Lys  
385 390 395 400  
Glu Arg Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Glu Ile  
405 410 415  
Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys Lys  
420 425 430  
Leu Lys Glu Leu Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Pro Arg  
435 440 445  
Pro Gly Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His Met

450 455 460  
Lys Glu Val Leu Pro Ala Ser Pro Arg Pro Asp Gln Ser Arg Pro Val  
465 470 475 480  
Cys Pro Pro Leu Arg Arg Cys Cys Pro Ala Ser Ala Thr Arg Arg Gly  
485 490 495  
His Ser Pro Ala Pro Gly Arg His Arg Gly Pro Ala Gly Tyr Ser Pro  
500 505 510  
His His Pro Pro Gly Ala Gln Leu Pro Gly Ala Ala Gly Arg Gly Leu  
515 520 525  
Ile Gly Ser Ala Ser Glu Asn Pro Val Ser Trp Pro Val Gly Ser Glu  
530 535 540  
Leu Leu Leu Lys Ser Pro Gln Arg Phe Pro Glu Ser Pro Glu Tyr Phe  
545 550 555 560  
Cys Ser Ala Asp Ser Leu His Ser Ala Ala Pro Gly Pro Phe Ser Ala  
565 570 575  
Ser Glu Asn Thr Leu Leu Ile Ala Glu Pro Gly Leu Glu Asp Val Lys  
580 585 590  
Asp Arg Val Glu Ala Ile Pro Ala Thr Ile Ser Thr Ser Glu Ala Ala  
595 600 605  
Pro Tyr Ala Pro Pro Ser Gly Leu Glu Ser Phe Phe Asn Asn Cys Lys  
610 615 620  
Ser Leu Pro Glu Ser Leu Leu Asp Met Ala Pro Glu Ala Cys Asn His  
625 630 635 640  
Cys Gly Ser Asp Ala Phe Ala Gly Ser Glu Asp Asp Leu Asp Leu Gly  
645 650 655  
Ser Phe Ser Leu Pro Glu Leu Pro Leu Gln Thr Lys Asp Val Pro Asp  
660 665 670  
Val Glu Thr Glu Pro Thr Glu Glu Ser Leu Ala Pro Ser Glu Lys Ile  
675 680 685  
Pro Pro Gly Ala Pro Val Val Leu Pro Thr Glu Leu Glu Pro Glu Pro  
690 695 700  
Ser Glu Glu Pro Lys Leu Asp Val Ala Leu Glu Ala Thr Glu Ala Glu

705 710 715 720  
Ala Val Pro Glu Glu Arg Ala Ser Gly Asp Leu Asp Ser Ser Met Glu  
725 730 735  
Pro Thr Pro Val Arg Pro Glu Gln Cys Gln Leu Gly Ser Arg Asp Gln  
740 745 750  
Gly Ala Glu Ala Glu His Leu Leu Pro Pro Ala Ala Ser Leu Cys Ala  
755 760 765  
Pro Asp Thr Pro Cys Pro Pro Trp Thr Leu Trp His Lys Pro Arg Leu  
770 775 780  
Arg Thr Val Leu Ala Pro Thr Thr Leu Arg Ala Ser Arg Ala Ala  
785 790 795 800  
Ala Pro Ala Glu Gly Pro Pro Cys Gly Ile Asp Pro Glu Ala Thr Glu  
805 810 815  
Ser Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg His Ser  
820 825 830  
Thr Gln Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln  
835 840 845  
Gln Thr Leu Ala Thr Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Tyr  
850 855 860  
Pro Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Phe Leu His Ile  
865 870 875 880  
Arg Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro  
885 890 895  
Gln Ala Thr Gln Trp Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr  
900 905 910  
Leu Leu Asp Gly Lys Ser Leu Ser Lys Leu His Met Pro Met Ile Ala  
915 920 925  
Pro Pro Pro Ser Leu Arg Ala Ser Ala Thr Arg Thr Ser Gln Cys Ala  
930 935 940  
Thr Gly Ser Thr Pro Ala Ser Ser Ser Pro Gly Ser Met Thr Trp Thr  
945 950 955 960  
Thr Ile Gln Pro His Glu Asp Leu Leu Thr Trp Gln Gln His Glu Ala

965

970

975

Ala Ala Leu Asn Ala Met Gln Arg Met Glu Trp Gln Leu Lys Val Gln  
980 985 990

Lys Leu Asp Pro Ala Gly His  
995

<210> 58  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: ANK, ankyrin  
repeats domain sequence

<400> 58  
Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val  
1 5 10 15

Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn  
20 25

<210> 59  
<211> 33  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: ANK, ankyrin  
repeats domain sequence

<400> 59  
Asp Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu  
1 5 10 15

Val Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp  
20 25 30

Lys

<210> 60  
<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin  
repeats domain sequence

<400> 60

Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val  
1 5 10 15

Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp  
20 25 30

<210> 61

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin  
repeats domain sequence

<400> 61

Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val  
1 5 10 15

Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn  
20 25

<210> 62

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin  
repeats domain sequence

<400> 62

Asp Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu  
1 5 10 15

Val Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile  
20 25

<210> 63  
<211> 29  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: ANK, ankyrin  
repeats domain sequence

<400> 63  
Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val  
1 5 10 15  
  
Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn Leu  
20 25

<210> 64  
<211> 287  
<212> PRT  
<213> Homo sapiens

<400> 64  
Met Pro Pro Thr Lys Pro Phe Leu Ala Pro Glu Thr Thr Ser Pro Gly  
1 5 10 15  
  
Asp Arg Val Glu Thr Pro Val Gly Glu Arg Ala Pro Thr Pro Val Ser  
20 25 30  
  
Ala Ser Ser Glu Val Ser Pro Glu Ser Gln Glu Asp Ser Glu Thr Pro  
35 40 45  
  
Ala Glu Glu Asp Ser Gly Ser Glu Gln Pro Pro Asn Ser Val Leu Pro  
50 55 60  
  
Asp Lys Leu Lys Val Ser Trp Glu Asn Pro Ser Pro Gln Glu Ala Pro  
65 70 75 80  
  
Ala Ala Glu Ser Ala Glu Ser Ser Gln Ala Pro Cys Ser Glu Thr Ser  
85 90 95  
  
Glu Ala Ala Pro Arg Glu Gly Gly Lys Pro Pro Thr Pro Pro Pro Lys  
100 105 110  
  
Ile Leu Ser Glu Lys Leu Lys Ala Ser Met Gly Glu Met Gln Ala Ser  
115 120 125

Gly Pro Pro Ala Pro Gly Thr Val Gln Val Ser Val Asn Gly Met Asp  
130 135 140

Asp Ser Pro Glu Pro Ala Lys Pro Ser Gln Ala Glu Gly Thr Pro Gly  
145 150 155 160

Thr Pro Pro Lys Asp Ala Thr Thr Ser Thr Ala Leu Pro Pro Trp Asp  
165 170 175

Leu Pro Pro Gln Phe His Pro Arg Cys Ser Ser Leu Gly Asp Leu Leu  
180 185 190

Gly Glu Gly Pro Arg His Pro Leu Gln Pro Arg Glu Arg Leu Tyr Arg  
195 200 205

Ala Gln Leu Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu  
210 215 220

Asn Lys Val Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu  
225 230 235 240

Leu Ser Gln Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln  
245 250 255

Glu Met Arg Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg  
260 265 270

Glu Lys Arg Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro  
275 280 285

<210> 65  
<211> 99  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Pleckstrin  
homology domain sequence

<400> 65  
Ile Val Lys Glu Gly Trp Leu Leu Lys Lys Ser Thr Val Lys Lys Lys  
1 5 10 15

Arg Trp Lys Lys Arg Tyr Phe Phe Leu Phe Asn Asp Val Leu Ile Tyr  
20 25 30

Tyr Lys Asp Lys Lys Lys Ser Tyr Glu Pro Lys Gly Ser Ile Pro Leu

35

40

45

Ser Gly Cys Ser Val Glu Asp Val Pro Asp Ser Glu Phe Lys Arg Pro  
50 55 60

Asn Cys Phe Gln Leu Arg Ser Arg Asp Gly Lys Glu Thr Phe Ile Leu  
65 70 75 80

Gln Ala Glu Ser Glu Glu Arg Gln Asp Trp Ile Lys Ala Ile Gln  
85 90 95

Ser Ala Ile

<210> 66

<211> 103

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Pleckstrin  
homology domain sequence

<400> 66

Val Ile Lys Glu Gly Trp Leu Leu Lys Lys Ser Ser Gly Gly Lys Lys  
1 5 10 15

Ser Trp Lys Lys Arg Tyr Phe Val Leu Phe Asn Gly Val Leu Leu Tyr  
20 25 30

Tyr Lys Ser Lys Lys Lys Ser Ser Ser Lys Pro Lys Gly Ser Ile  
35 40 45

Pro Leu Ser Gly Cys Thr Val Arg Glu Ala Pro Asp Ser Asp Ser Asp  
50 55 60

Lys Lys Lys Asn Cys Phe Glu Ile Val Thr Pro Asp Arg Lys Thr Leu  
65 70 75 80

Leu Leu Gln Ala Glu Ser Glu Glu Arg Lys Glu Trp Val Glu Ala  
85 90 95

Leu Arg Lys Ala Ile Ala Lys  
100

<210> 67

<211> 431  
<212> PRT  
<213> Mus musculus

<400> 67

Met	Arg	Arg	Leu	Arg	Arg	Leu	Val	His	Leu	Val	Leu	Leu	Cys	Pro	Phe
1															15
Ser	Lys	Gly	Leu	Gln	Gly	Arg	Leu	Pro	Gly	Leu	Arg	Val	Lys	Tyr	Val
	20														30
Leu	Leu	Val	Trp	Leu	Gly	Ile	Phe	Val	Gly	Ser	Trp	Met	Val	Tyr	Val
	35														45
His	Tyr	Ser	Ser	Tyr	Ser	Glu	Leu	Cys	Arg	Gly	His	Val	Cys	Gln	Val
	50														60
Val	Ile	Cys	Asp	Gln	Tyr	Arg	Lys	Gly	Ile	Ile	Ser	Gly	Ser	Val	Cys
	65														80
Gln	Asp	Leu	Cys	Glu	Leu	Gln	Lys	Val	Glu	Trp	Arg	Thr	Cys	Leu	Ser
	85														95
Ser	Ala	Pro	Gly	Gln	Gln	Val	Tyr	Ser	Gly	Leu	Trp	Gln	Asp	Lys	Glu
	100														110
Val	Thr	Ile	Lys	Cys	Gly	Ile	Glu	Glu	Ala	Leu	Asn	Ser	Lys	Ala	Trp
	115														125
Pro	Asp	Ala	Ala	Pro	Arg	Arg	Glu	Leu	Val	Leu	Phe	Asp	Lys	Pro	Thr
	130														140
Arg	Gly	Thr	Ser	Ile	Lys	Glu	Phe	Arg	Glu	Met	Thr	Leu	Ser	Phe	Leu
	145														160
Lys	Ala	Asn	Leu	Gly	Asp	Leu	Pro	Ser	Leu	Pro	Ala	Leu	Val	Asp	Gln
	165														175
Ile	Leu	Leu	Met	Ala	Asp	Phe	Asn	Lys	Asp	Ser	Arg	Val	Ser	Leu	Ala
	180														190
Glu	Ala	Lys	Ser	Val	Trp	Ala	Leu	Leu	Gln	Arg	Asn	Glu	Phe	Leu	Leu
	195														205
Leu	Leu	Ser	Leu	Gln	Glu	Lys	Glu	His	Ala	Ser	Arg	Leu	Leu	Gly	Tyr
	210														220
Cys	Gly	Asp	Leu	Tyr	Leu	Thr	Glu	Gly	Ile	Pro	His	Gly	Ser	Trp	His

225	230	235	240
Gly Ala Val Leu Leu Pro Ala Leu Arg Pro Leu Leu Pro Ser Val Leu			
245	250	255	
His Arg Ala Leu Gln Gln Trp Phe Gly Pro Ala Trp Pro Trp Arg Ala			
260	265	270	
Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu Leu Phe His Gly			
275	280	285	
Ser Tyr Gly Thr Phe Tyr Met Cys Glu Thr Thr Leu Ala Asn Val Gly			
290	295	300	
Tyr Thr Ala Thr Tyr Asp Phe Lys Met Ala Asp Leu Gln Gln Val Ala			
305	310	315	320
Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg His Cys Glu Gln			
325	330	335	
Ser Ser Asp Cys Ile Tyr Gly Arg Asp Cys Arg Ala Pro Cys Asp Arg			
340	345	350	
Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro Asn Leu Ala Lys			
355	360	365	
Val Cys Glu Leu Leu Arg Asp Tyr Leu Leu Pro Gly Ala Pro Ala Gly			
370	375	380	
Leu Tyr Glu Glu Leu Gly Lys Gln Leu Arg Thr Cys Thr Thr Leu Ser			
385	390	395	400
Gly Leu Ala Ser Gln Ile Glu Ala His His Ser Leu Val Leu Ser His			
405	410	415	
Leu Lys Thr Leu Leu Trp Arg Glu Ile Ser Asn Thr Asn Tyr Ser			
420	425	430	

<210> 68  
 <211> 428  
 <212> PRT  
 <213> Mus musculus

<400> 68  
 Met Val Tyr Val His Tyr Ser Ser Tyr Ser Glu Leu Cys Arg Gly His  
 1 5 10 15

Val	Cys	Gln	Val	Val	Ile	Cys	Asp	Gln	Tyr	Arg	Lys	Gly	Ile	Ile	Ser
			20				25				30				
Gly	Ser	Val	Cys	Gln	Asp	Leu	Cys	Glu	Leu	Gln	Lys	Val	Glu	Trp	Arg
	35				40					45					
Thr	Cys	Leu	Ser	Ser	Ala	Pro	Gly	Gln	Gln	Val	Tyr	Ser	Gly	Leu	Trp
	50			55					60						
Gln	Asp	Lys	Glu	Val	Thr	Ile	Lys	Cys	Gly	Ile	Glu	Glu	Ala	Leu	Asn
	65			70			75			80					
Ser	Lys	Ala	Trp	Pro	Asp	Ala	Ala	Pro	Arg	Arg	Glu	Leu	Val	Leu	Phe
	85				90					95					
Asp	Lys	Pro	Thr	Arg	Gly	Thr	Ser	Ile	Lys	Glu	Phe	Arg	Glu	Met	Thr
	100				105					110					
Leu	Ser	Phe	Leu	Lys	Ala	Asn	Leu	Gly	Asp	Leu	Pro	Ser	Leu	Pro	Ala
	115				120					125					
Leu	Val	Asp	Gln	Ile	Leu	Leu	Met	Ala	Asp	Phe	Asn	Lys	Asp	Ser	Arg
	130				135					140					
Val	Ser	Leu	Ala	Glu	Ala	Lys	Ser	Val	Trp	Ala	Leu	Leu	Gln	Arg	Asn
	145				150				155				160		
Glu	Phe	Leu	Leu	Leu	Leu	Ser	Leu	Gln	Glu	Lys	Glu	His	Ala	Ser	Arg
	165				170					175					
Leu	Leu	Gly	Tyr	Cys	Gly	Asp	Leu	Tyr	Leu	Thr	Glu	Gly	Ile	Pro	His
	180				185					190					
Gly	Ser	Trp	His	Gly	Ala	Val	Leu	Leu	Pro	Ala	Leu	Arg	Pro	Leu	Leu
	195				200				205						
Pro	Ser	Val	Leu	His	Arg	Ala	Leu	Gln	Gln	Trp	Phe	Gly	Pro	Ala	Trp
	210				215				220						
Pro	Trp	Arg	Ala	Lys	Ile	Ala	Ile	Gly	Leu	Leu	Glu	Phe	Val	Glu	Glu
	225				230			235			240				
Leu	Phe	His	Gly	Ser	Tyr	Gly	Thr	Phe	Tyr	Met	Cys	Glu	Thr	Thr	Leu
	245				250					255					
Ala	Asn	Val	Gly	Tyr	Thr	Ala	Thr	Tyr	Asp	Phe	Lys	Met	Ala	Asp	Leu
	260				265					270					

Gln Gln Val Ala Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg  
275 280 285

His Cys Glu Gln Ser Ser Asp Cys Ile Tyr Gly Arg Asp Cys Arg Ala  
290 295 300

Pro Cys Asp Arg Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro  
305 310 315 320

Asn Leu Ala Lys Val Cys Glu Leu Leu Arg Asp Tyr Leu Leu Pro Gly  
325 330 335

Ala Pro Ala Gly Leu Tyr Glu Glu Leu Gly Lys Gln Cys Ala Pro Ala  
340 345 350

Pro Gln Lys Val Asp Trp Pro Ala Arg Leu Arg Leu Thr Ile His Trp  
355 360 365

Cys Leu Ala Thr Leu Arg Pro Tyr Ser Gly Gly Arg Ser Pro Thr Pro  
370 375 380

Thr Thr Pro Arg Ala Ala Gly Ser Arg His Tyr Ser Ser Gln Val Ala  
385 390 395 400

Pro Pro His Ser Leu Gln Gln Leu Ser Arg Gly Ala Arg Gly Pro Tyr  
405 410 415

Gln Arg Trp Pro Thr Gly Pro Asn Pro Pro Asn Met  
420 425

<210> 69  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 69  
Met Val Glu Trp Arg Thr Cys Leu Ser Val Ala Pro Gly Gln Gln Val  
1 5 10 15

Tyr Ser Gly Leu Trp Arg Asp Lys Asp Val Thr Ile Lys Cys Gly Ile  
20 25 30

Glu Glu Thr Leu Asp Ser Lys Ala Arg Ser Asp Ala Ala Pro Arg Arg  
35 40 45

Glu Leu Val Leu Phe Asp Lys Pro Thr Arg Gly Thr Ser Ile Lys Glu  
50 55 60

Phe	Arg	Glu	Met	Thr	Leu	Gly	Phe	Leu	Lys	Ala	Asn	Leu	Gly	Asp	Leu
65				70					75				80		
Pro	Ser	Leu	Pro	Ala	Leu	Val	Gly	Gln	Val	Leu	Leu	Met	Ala	Asp	Phe
									85				90		95
Asn	Lys	Asp	Asn	Arg	Val	Ser	Leu	Ala	Glu	Ala	Lys	Ser	Val	Trp	Ala
								100			105			110	
Leu	Leu	Gln	Arg	Asn	Glu	Phe	Leu	Leu	Leu	Ser	Leu	Gln	Glu	Lys	
								115			120			125	
Glu	His	Ala	Ser	Arg	Leu	Leu	Gly	Tyr	Cys	Gly	Asp	Leu	Tyr	Leu	Thr
								130			135			140	
Glu	Gly	Val	Pro	His	Gly	Ala	Trp	His	Ala	Ala	Ala	Leu	Pro	Pro	Leu
								145			150			155	
Leu	Arg	Pro	Leu	Leu	Pro	Pro	Ala	Leu	Gln	Gly	Ala	Leu	Gln	Gln	Trp
								165			170			175	
Leu	Gly	Pro	Ala	Trp	Pro	Trp	Arg	Ala	Lys	Ile	Ala	Ile	Gly	Leu	Leu
								180			185			190	
Glu	Phe	Val	Glu	Glu	Leu	Phe	His	Gly	Ser	Tyr	Gly	Thr	Phe	Tyr	Met
								195			200			205	
Cys	Glu	Thr	Thr	Leu	Ala	Asn	Val	Gly	Tyr	Thr	Ala	Thr	Tyr	Asp	Phe
								210			215			220	
Lys	Met	Ala	Asp	Leu	Gln	Gln	Val	Ala	Pro	Glu	Ala	Thr	Val	Arg	Arg
								225			230			235	
Phe	Leu	Gln	Gly	Arg	Arg	Cys	Glu	His	Ser	Thr	Asp	Cys	Thr	Thr	Gly
								245			250			255	
Ala	Thr	Ala	Gly	Pro	Arg	Val	Thr	Gly	Ser						
								260			265				

<210> 70

<211> 428

<212> PRT

<213> Mus musculus

<400> 70

Met Ala Arg Ser Leu Cys Ala Gly Ala Trp Leu Arg Lys Pro His Tyr

1

5

10

15

Leu Gln Ala Arg Leu Ser Tyr Met Arg Val Lys Tyr Leu Phe Phe Ser  
20 25 30

Trp Leu Val Val Phe Val Gly Ser Trp Ile Ile Tyr Val Gln Tyr Ser  
35 40 45

Thr Tyr Thr Glu Leu Cys Arg Gly Lys Asp Cys Lys Lys Ile Ile Cys  
50 55 60

Asp Lys Tyr Lys Thr Gly Val Ile Asp Gly Pro Ala Cys Asn Ser Leu  
65 70 75 80

Cys Val Thr Glu Thr Leu Tyr Phe Gly Lys Cys Leu Ser Asn Lys Pro  
85 90 95

Ser Asn Gln Met Tyr Leu Gly Val Trp Asp Asn Leu Pro Gly Val Val  
100 105 110

Lys Cys Gln Met Glu Gln Ala Leu His Leu Asp Phe Gly Thr Glu Leu  
115 120 125

Glu Pro Arg Lys Glu Ile Val Leu Phe Asp Lys Pro Thr Arg Gly Thr  
130 135 140

Thr Val Gln Lys Phe Lys Glu Met Val Tyr Ser Leu Phe Lys Ala Lys  
145 150 155 160

Leu Gly Asp Gln Gly Asn Leu Ser Glu Leu Val Asn Leu Ile Leu Thr  
165 170 175

Val Ala Asp Gly Asp Arg Asp Gly Gln Val Ser Leu Gly Glu Ala Lys  
180 185 190

Ser Ala Trp Ala Leu Leu Gln Leu Asn Glu Phe Leu Leu Met Val Ile  
195 200 205

Leu Gln Asp Lys Glu His Thr Pro Lys Leu Met Gly Phe Cys Gly Asp  
210 215 220

Leu Tyr Val Met Glu Ser Val Glu Tyr Thr Ser Leu Tyr Gly Ile Ser  
225 230 235 240

Leu Pro Trp Val Met Glu Leu Phe Ile Pro Ser Gly Phe Arg Arg Ser  
245 250 255

Met Asp Gln Leu Phe Thr Pro Ser Trp Pro Arg Lys Ala Lys Ile Ala

260

265

270

Ile Gly Leu Leu Glu Phe Val Glu Asp Val Phe His Gly Pro Tyr Gly  
275 280 285

Asn Phe Leu Met Cys Asp Thr Ser Ala Lys Asn Leu Gly Tyr Asn Glu  
290 295 300

Lys Tyr Asp Leu Lys Met Val Asp Met Arg Lys Ile Val Pro Glu Thr  
305 310 315 320

Asn Leu Lys Glu Leu Ile Lys Asp Arg His Cys Glu Ser Asp Leu Asp  
325 330 335

Cys Val Tyr Gly Thr Asp Cys Arg Thr Ser Cys Asp Leu Ser Thr Met  
340 345 350

Lys Cys Thr Ser Glu Val Ile Gln Pro Asn Leu Ala Lys Ala Cys Gln  
355 360 365

Leu Leu Lys Asp Tyr Leu Leu His Gly Ala Pro Ser Glu Ile Arg Glu  
370 375 380

Glu Leu Glu Lys Gln Leu Tyr Ser Cys Ile Ala Leu Lys Val Thr Ala  
385 390 395 400

Asn Gln Met Glu Met Glu His Ser Leu Ile Leu Asn Asn Leu Lys Thr  
405 410 415

Leu Leu Trp Lys Lys Ile Ser Tyr Thr Asn Asp Ser  
420 425

<210> 71

<211> 403

<212> PRT

<213> Homo sapiens

<400> 71

Met Lys Tyr Leu Phe Phe Ser Trp Leu Val Val Phe Val Gly Ser Trp  
1 5 10 15

Ile Ile Tyr Val Gln Tyr Ser Thr Tyr Thr Glu Leu Cys Arg Gly Lys  
20 25 30

Asp Cys Lys Lys Ile Ile Cys Asp Lys Tyr Lys Thr Gly Val Ile Asp  
35 40 45

Gly Pro Ala Cys Asn Ser Leu Cys Val Thr Glu Thr Leu Tyr Phe Gly  
50 55 60

Lys Cys Leu Ser Thr Lys Pro Asn Asn Gln Met Tyr Leu Gly Ile Trp  
65 70 75 80

Asp Asn Leu Pro Gly Val Val Lys Cys Gln Met Glu Gln Ala Leu His  
85 90 95

Leu Asp Phe Gly Thr Glu Leu Glu Pro Arg Lys Glu Ile Val Leu Phe  
100 105 110

Asp Lys Pro Thr Arg Gly Thr Thr Val Gln Lys Phe Lys Glu Met Val  
115 120 125

Tyr Ser Leu Phe Lys Ala Lys Leu Gly Asp Gln Gly Asn Leu Ser Glu  
130 135 140

Leu Val Asn Leu Ile Leu Thr Val Ala Asp Gly Asp Lys Asp Gly Gln  
145 150 155 160

Val Ser Leu Gly Glu Ala Lys Ser Ala Trp Ala Leu Leu Gln Leu Asn  
165 170 175

Glu Phe Leu Leu Met Val Ile Leu Gln Asp Lys Glu His Thr Pro Lys  
180 185 190

Leu Met Gly Phe Cys Gly Asp Leu Tyr Val Met Glu Ser Val Glu Tyr  
195 200 205

Thr Ser Leu Tyr Gly Ile Ser Leu Pro Trp Val Ile Glu Leu Phe Ile  
210 215 220

Pro Ser Gly Phe Arg Arg Ser Met Asp Gln Leu Phe Thr Pro Ser Trp  
225 230 235 240

Pro Arg Lys Ala Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Asp  
245 250 255

Val Phe His Gly Pro Tyr Gly Asn Phe Leu Met Cys Asp Thr Ser Ala  
260 265 270

Lys Asn Leu Gly Tyr Asn Asp Lys Tyr Asp Leu Lys Met Val Asp Met  
275 280 285

Arg Lys Ile Val Pro Glu Thr Asn Leu Lys Glu Leu Ile Lys Asp Arg  
290 295 300

His	Cys	Glu	Ser	Asp	Leu	Asp	Cys	Val	Tyr	Gly	Thr	Asp	Cys	Arg	Thr
305				310					315					320	
Ser	Cys	Asp	Gln	Ser	Thr	Met	Lys	Cys	Thr	Ser	Glu	Val	Ile	Gln	Pro
				325					330					335	
Asn	Leu	Ala	Lys	Ala	Cys	Gln	Leu	Leu	Lys	Asp	Tyr	Leu	Leu	Arg	Gly
				340				345					350		
Ala	Pro	Ser	Glu	Ile	Arg	Glu	Glu	Leu	Glu	Lys	Gln	Leu	Tyr	Ser	Cys
				355			360					365			
Ile	Ala	Leu	Lys	Val	Thr	Ala	Asn	Gln	Met	Glu	Met	Glu	His	Ser	Leu
				370			375					380			
Ile	Leu	Asn	Asn	Leu	Lys	Thr	Leu	Leu	Trp	Lys	Lys	Ile	Ser	Tyr	Thr
				385			390					395		400	
Asn	Asp	Ser													

<210>	72														
<211>	311														
<212>	PRT														
<213>	Homo sapiens														
<400>	72														
Met	Asp	Gly	Thr	Asn	Gly	Ser	Thr	Gln	Thr	His	Phe	Ile	Leu	Leu	Gly
1				5					10					15	
Phe	Ser	Asp	Arg	Pro	His	Leu	Glu	Arg	Ile	Leu	Phe	Val	Val	Ile	Leu
									20			25		30	
Ile	Ala	Tyr	Leu	Leu	Thr	Leu	Val	Gly	Asn	Thr	Thr	Ile	Ile	Leu	Val
									35			40		45	
Ser	Arg	Leu	Asp	Pro	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ala
									50			55		60	
His	Leu	Ser	Phe	Leu	Asp	Leu	Ser	Phe	Thr	Thr	Ser	Ser	Ile	Pro	Gln
									65			70		75	
Leu	Leu	Tyr	Asn	Leu	Asn	Gly	Cys	Asp	Lys	Thr	Ile	Ser	Tyr	Met	Gly
									85			90		95	
Cys	Ala	Ile	Gln	Leu	Phe	Leu	Phe	Leu	Gly	Leu	Gly	Gly	Val	Glu	Cys
									100			105		110	

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys  
115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu  
130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser  
145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His  
165 170 175

Phe Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr Val  
180 185 190

Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu Ser  
195 200 205

Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala Val  
210 215 220

Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr Cys  
225 230 235 240

Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile Tyr  
245 250 255

Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Met Phe Leu  
260 265 270

Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu Ile Tyr  
275 280 285

Thr Leu Arg Arg Glu Val Lys Gly Ala Leu Gly Arg Leu Leu Leu Gly  
290 295 300

Lys Arg Glu Leu Gly Lys Glu  
305 310

<210> 73  
<211> 314  
<212> PRT  
<213> Marmota marmota

<400> 73  
Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly

1	5	10	15
Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu			
20	25	30	
Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val			
35	40	45	
Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala			
50	55	60	
His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln			
65	70	75	80
Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly			
85	90	95	
Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys			
100	105	110	
Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys			
115	120	125	
Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu			
130	135	140	
Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser			
145	150	155	160
Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His			
165	170	175	
Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr			
180	185	190	
Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu			
195	200	205	
Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala			
210	215	220	
Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr			
225	230	235	240
Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile			
245	250	255	
Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met			

260

265

270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu  
275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu  
290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu  
305 310

<210> 74

<211> 320

<212> PRT

<213> Homo sapiens

<400> 74

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala  
20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala  
35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln  
65 70 75 80

Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly  
85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys  
100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys  
115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met  
130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys  
145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His  
165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr  
180 185 190

Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu  
195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala  
210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr  
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile  
245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys  
260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu  
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu  
290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser  
305 310 315 320

<210> 75  
<211> 320  
<212> PRT  
<213> Homo sapiens

<400> 75  
Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala  
20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala  
35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln  
65 70 75 80

Val Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly  
85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys  
100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys  
115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met  
130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys  
145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His  
165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr  
180 185 190

Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu  
195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala  
210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr  
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile  
245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys  
260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu  
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu  
290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser  
305 310 315 320

<210> 76  
<211> 320  
<212> PRT  
<213> Homo sapiens

<400> 76  
Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly  
1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala  
20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala  
35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg  
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln  
65 70 75 80

Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly  
85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys  
100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys  
115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met  
130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys  
145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His  
165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr

180	185	190
Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu		
195	200	205
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala		
210	215	220
Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr		
225	230	235
Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile		
245	250	255
Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys		
260	265	270
Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu		
275	280	285
Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu		
290	295	300
Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser		
305	310	315
320		

<210> 77

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 7tm\_1, 7  
transmembrane receptor domain sequence

<400> 77

Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg			
1	5	10	15

Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu			
20	25	30	

Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly			
35	40	45	

Asp	Trp	Val	Phe	Gly	Asp	Ala	Leu	Cys	Lys	Leu	Val	Gly	Ala	Leu	Phe
50					55						60				
Val	Val	Asn	Gly	Tyr	Ala	Ser	Ile	Leu	Leu	Leu	Thr	Ala	Ile	Ser	Ile
65					70					75					80
Asp	Arg	Tyr	Leu	Ala	Ile	Val	His	Pro	Leu	Arg	Tyr	Arg	Arg	Ile	Arg
	85					90						95			
Thr	Pro	Arg	Arg	Ala	Lys	Val	Leu	Ile	Leu	Leu	Val	Trp	Val	Leu	Ala
	100					105						110			
Leu	Leu	Leu	Ser	Leu	Pro	Pro	Leu	Leu	Phe	Ser	Trp	Leu	Arg	Thr	Val
	115					120						125			
Glu	Glu	Gly	Asn	Thr	Thr	Val	Cys	Leu	Ile	Asp	Phe	Pro	Glu	Glu	Ser
	130					135						140			
Val	Lys	Arg	Ser	Tyr	Val	Leu	Leu	Ser	Thr	Leu	Val	Gly	Phe	Val	Leu
	145					150					155			160	
Pro	Leu	Leu	Val	Ile	Leu	Val	Cys	Tyr	Thr	Arg	Ile	Leu	Arg	Thr	Leu
	165					170						175			
Arg	Lys	Arg	Ala	Arg	Ser	Gln	Arg	Ser	Leu	Lys	Arg	Arg	Ser	Ser	Ser
	180					185						190			
Glu	Arg	Lys	Ala	Ala	Lys	Met	Leu	Leu	Val	Val	Val	Val	Phe	Val	
	195					200						205			
Leu	Cys	Trp	Leu	Pro	Tyr	His	Ile	Val	Leu	Leu	Leu	Asp	Ser	Leu	Cys
	210					215						220			
Leu	Leu	Ser	Ile	Trp	Arg	Val	Leu	Pro	Thr	Ala	Leu	Ile	Thr	Leu	
	225					230					235			240	
Trp	Leu	Ala	Tyr	Val	Asn	Ser	Cys	Leu	Asn	Pro	Ile	Ile	Tyr		
	245					250									

<210> 78  
 <211> 188  
 <212> PRT  
 <213> Homo sapiens

<400> 78  
 Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Phe Arg Gln Pro Ser

1

5

10

15

Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly  
20 25 30

Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met  
35 40 45

Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile  
50 55 60

Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys  
65 70 75 80

Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys  
85 90 95

Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala  
100 105 110

Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu  
115 120 125

Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn  
130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly  
145 150 155 160

Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp  
165 170 175

Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu  
180 185

<210> 79  
<211> 188  
<212> PRT  
<213> Mus musculus

<400> 79  
Met Thr Ser Pro Trp Ser Ala Phe Pro Val Gln Ile Pro Gln Pro Ser  
1 5 10 15

Ile Arg Gly Leu Ser Gln Ile Thr Lys Ser Leu Phe Ile Ser Asn Gly  
20 25 30

Val Ala Ala Asn Asn Lys Leu Leu Leu Ser Ser Asn Gln Ile Thr Thr  
35 40 45

Val Ile Asn Val Ser Val Glu Val Ala Asn Thr Phe Tyr Glu Asp Ile  
50 55 60

Gln Tyr Val Gln Val Pro Val Val Asp Ala Pro Val Ala Arg Leu Ser  
65 70 75 80

Asn Phe Phe Asp Ser Val Ala Asp Arg Ile His Ser Val Glu Met Gln  
85 90 95

Lys Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala  
100 105 110

Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Val  
115 120 125

Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn  
130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Leu Gln Leu Phe Gly  
145 150 155 160

Lys Asn Thr Met Gln Met Met Asp Ser Pro Met Gly Arg Ile Pro Asp  
165 170 175

Ile Tyr Glu Lys Glu Thr Arg Leu Met Ile Pro Leu  
180 185

<210> 80  
<211> 151  
<212> PRT  
<213> Homo sapiens

<400> 80  
Ala Arg Gly Leu Ser Ser Asn Gln Ile Thr Met Val Ile Asn Val Ser  
1 5 10 15

Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile Gln Tyr Met Gln Val  
20 25 30

Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys Asp Phe Phe Asp Pro  
35 40 45

Ile Ala Asp His Ile His Ser Val Glu Met Lys Gln Gly Arg Thr Leu  
50 55 60

Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala Ala Leu Cys Leu Ala  
65 70 75 80

Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu Asp Ala His Thr Trp  
85 90 95

Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn Ser Gly Phe Trp Glu  
100 105 110

Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly Lys Asn Thr Val His  
115 120 125

Met Val Ser Ser Pro Val Gly Met Ile Pro Asp Ile Tyr Glu Lys Glu  
130 135 140

Val Arg Leu Met Ile Pro Leu  
145 150

<210> 81  
<211> 187  
<212> PRT  
<213> *Mus musculus*

<400> 81  
Met Thr Thr Ala Ser Cys Ile Phe Pro Ser Gln Ala Thr Gln Gln Asp  
1 5 10 15

Asn Ile Tyr Gly Leu Ser Gln Ile Thr Ala Ser Leu Phe Ile Ser Asn  
20 25 30

Ser Ala Val Ala Asn Asp Lys Leu Thr Leu Ser Asn Asn His Ile Thr  
35 40 45

Thr Ile Ile Asn Val Ser Ala Glu Val Val Asn Thr Phe Phe Glu Asp  
50 55 60

Ile Gln Tyr Val Gln Val Pro Val Ser Asp Ala Pro Asn Ser Tyr Leu  
65 70 75 80

Tyr Asp Phe Phe Asp Pro Ile Ala Asp Ile His Gly Val Glu Met Arg  
85 90 95

Asn Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala  
100 105 110

Thr Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Asn Met Thr Leu Leu

115	120	125
Asp Ala His Thr Trp Thr Lys Thr Cys Arg Pro Ile Ile Arg Pro Asn		
130	135	140
Asn Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Lys Leu Phe Ser		
145	150	155
160		
Arg Asn Thr Val Arg Met Ile Tyr Ser Pro Ile Gly Leu Ile Pro Asn		
165	170	175
Ile Tyr Glu Lys Ala Tyr Leu Met Glu Leu Met		
180	185	
<210> 82		
<211> 190		
<212> PRT		
<213> Homo sapiens		
<400> 82		
Met Thr Ala Ser Ala Ser Ser Phe Ser Ser Ser Gln Gly Val Gln Gln		
1	5	10
15		
Pro Ser Ile Tyr Ser Phe Ser Gln Ile Thr Arg Ser Leu Phe Leu Ser		
20	25	30
Asn Gly Val Ala Ala Asn Asp Lys Leu Leu Leu Ser Ser Asn Arg Ile		
35	40	45
Thr Ala Ile Val Asn Ala Ser Val Glu Val Val Asn Val Phe Phe Glu		
50	55	60
Gly Ile Gln Tyr Ile Lys Val Pro Val Thr Asp Ala Arg Asp Ser Arg		
65	70	75
80		
Leu Tyr Asp Phe Phe Asp Pro Ile Ala Asp Leu Ile His Thr Ile Asp		
85	90	95
Met Arg Gln Gly Arg Thr Leu Leu His Cys Met Ala Gly Val Ser Arg		
100	105	110
Ser Ala Ser Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ser Met Ser		
115	120	125
Leu Leu Asp Ala His Thr Trp Thr Lys Ser Arg Arg Pro Ile Ile Arg		
130	135	140

Pro Asn Asn Gly Phe Trp Glu Gln Leu Ile Asn Tyr Glu Phe Lys Leu  
145 150 155 160

Phe Asn Asn Asn Thr Val Arg Met Ile Asn Ser Pro Val Gly Asn Ile  
165 170 175

Pro Asp Ile Tyr Glu Lys Asp Leu Arg Met Met Ile Ser Met  
180 185 190

<210> 83

<211> 139

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DSPc, Dual  
specificity phosphatase domain sequence

<400> 83

Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Ser Asp  
1 5 10 15

Ala Ser Asn Leu Ala Leu Leu Lys Lys Leu Gly Ile Thr His Val Ile  
20 25 30

Asn Val Thr Glu Glu Val Pro Asn Ser Asn Lys Ser Gly Phe Leu Tyr  
35 40 45

Leu Gly Ile Pro Val Asp Asp Asn Thr Glu Thr Lys Ile Ser Pro Tyr  
50 55 60

Leu Pro Glu Ala Val Glu Phe Ile Glu Asp Ala Glu Lys Lys Gly Gly  
65 70 75 80

Lys Val Leu Val His Cys Gln Ala Gly Val Ser Arg Ser Ala Thr Leu  
85 90 95

Ile Ile Ala Tyr Leu Met Lys Tyr Arg Asn Met Ser Leu Asn Asp Ala  
100 105 110

Tyr Asp Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly  
115 120 125

Phe Leu Arg Gln Leu Ile Glu Tyr Glu Arg Lys  
130 135

<210> 84  
<211> 139  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Description of  
Artificial Sequence: DSPc, Dual specificity  
phosphatase domain sequence

<400> 84  
Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Pro Thr  
1 5 10 15  
  
Ala Ser Asn Leu Ala Phe Leu Ser Lys Leu Gly Ile Thr His Val Ile  
20 25 30  
  
Asn Val Thr Glu Glu Val Pro Asn Ser Lys Asn Ser Gly Phe Leu Tyr  
35 40 45  
  
Leu His Ile Pro Val Asp Asp Asn His Glu Thr Asp Ile Ser Pro Tyr  
50 55 60  
  
Leu Asp Glu Ala Val Glu Phe Ile Glu Asp Ala Arg Gln Lys Gly  
65 70 75 80  
  
Lys Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala Thr Leu  
85 90 95  
  
Ile Ile Ala Tyr Leu Met Lys Thr Arg Asn Leu Ser Leu Asn Glu Ala  
100 105 110  
  
Tyr Ser Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly  
115 120 125  
  
Phe Lys Arg Gln Leu Ile Glu Tyr Glu Arg Lys  
130 135

<210> 85  
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<212> PRT  
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<220>  
<223> Description of Artificial Sequence: PTpc, Protein  
tyrosine phosphatase domain sequence

<400> 85  
Arg Lys Ser Gln Ser Thr Leu Arg Asn Ser Gly Pro Ile Val Val His  
1 5 10 15

Cys Ser Ala Gly Val Gly Arg Thr Gly Thr Phe Ile Ala Ile Asp Ile  
20 25 30

Leu

<210> 86  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR primer  
sequence

<400> 86  
ctggaccgaa gctacagcta ta 22

<210> 87  
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<220>  
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<400> 87  
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<210> 88  
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<220>  
<223> Description of Artificial Sequence: PCR primer  
sequence

<400> 88  
cgagctcctc ttcagagatg a 21

<210> 89  
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<220>  
<223> Description of Artificial Sequence: PCR primer sequence

<400> 89  
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<210> 93  
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<210> 95  
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<210> 96  
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<210> 97

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<400> 97

atcatcaaac ggacttcctt ct

22